FREEPOST LTC CONSULTATION By email: ltc.consultation@traverse.ltd	Sessions House County Hall Maidstone ME14 1XQ 18 December 2018

Dear Sir/Madam,

Lower Thames Crossing Development Consent Order Consultation 2018

Response from Kent County Council

This is Kent County Council's (KCC) officer response to the statutory consultation by Highways England on the latest proposals for a new Lower Thames Crossing.

Kent's geography makes it unique in the transport challenges it faces, especially in its role as a strategic international gateway. While being an international gateway brings many economic opportunities, it also brings significant challenges. One of these challenges is the need to ensure high quality, free-flow strategic routes which enable and support this gateway function without disbenefit to Kent's residents or businesses, or indeed to the county's sustainable growth. To this end, it is vital that traffic travelling through Kent as a gateway must remain on the Strategic Road Network (SRN) and not impact on the local road network.

For many years, KCC has made the case for the urgent need for a new Lower Thames Crossing (LTC) that will cater for current and future demand as well as relieving the significant, daily congestion experienced at Dartford and providing greater connectivity north and south of the Thames Estuary to boost both local and national economic productivity. KCC therefore welcomes the proposed LTC and the investment in additional road capacity that will unlock new opportunities for Kent, the South East and the wider UK.

However, as we have said many times previously, it must be understood that the LTC is only the first section of a new strategic route from Dover to the Midlands and the North which is desperately needed, given the 5% per annum growth in cross-channel traffic forecast at the Channel ports, in addition to the level of housing growth that Kent will be accommodating over the coming years.

A phased programme of wider network improvements delivered alongside the new LTC is vital to ensuring the success of the new Crossing. This includes the need for enhancements to the links between the M2/A2 and M20/A20 via the A229 and A249,

and along the M2/A2 corridor, including dualling of the A2 from Lydden to Dover and improvements to M2 Junction 7 (Brenley Corner).

The traffic modelling shows that the wider network to the east of the new LTC, both local and strategic, will be put under increased pressure as a result of the new Crossing. Unless these roads and junctions receive capacity upgrades to relieve existing congestion and background growth, the induced and transferred traffic resulting from the LTC will constrain economic growth in the county. As a result, Highways England must urgently consider the need for necessary wider network improvements to be incorporated within the next Road Investment Strategy (RIS), and assist in making the case to Government for funding for local road improvements through the Major Road Network (MRN).

Overall, KCC remains in support of the Secretary of State's preferred route alignment – Option C, a bored tunnel, to the east of Gravesend, with the Western Southern Link (WSL) linking the new crossing with the A2.

The design changes since the previous consultation in 2016, and the preferred route announcement in 2017, are welcomed and we appreciate that the views of KCC have been taken into account in the re-design. This includes the removal of the A226 junction due to our concerns regarding the impact on the Local Road Network. Furthermore, we are also pleased to see the extension of the tunnel portal 600m further south and the route to include the widening of the A2 between M2 Junction 1 and the LTC junction.

However, further mitigation is essential. This includes such measures as increasing the length of tunnel further, covering the section of the route in cutting and measures to ensure that the widening of the A2 does not impact on Shorne Woods Country Park. We also have some concerns regarding the arrangement of the junction with the A2 and ask that the design is reviewed to explore options for maintaining direct access for local residents to the A2 east-bound.

Whilst we remain supportive of the project, the attached response to the consultation questionnaire also sets out KCC's concerns on several issues arising from the proposed Crossing, including the impact on the local area in terms of both environmental and traffic impacts, and highlights the need for appropriate mitigation measures and equitable compensation for those affected.

Yours sincerely

Barbara Cooper
Corporate Director for Growth, Environment & Transport
Kent County Council

Kent County Council's Response to the Lower Thames Crossing Consultation Questionnaire

1. The need for the Lower Thames Crossing

Q1a. Do you agree or disagree that the Lower Thames Crossing is needed?

Strongly agree
Agree
Neutral
Disagree
Strongly disagree
Don't know

Q1b. Please let us know the reasons for your response to Q1a and any other views you have on the case for the Lower Thames Crossing.

The need for a new Lower Thames Crossing has been a long-standing key strategic priority within the Council's Local Transport Plans. KCC's current Local Transport Plan 4: Delivering Growth without Gridlock (2016-31) (LTP4), identifies the existing Dartford Crossing as the shortest freight route between Kent and the major distribution centres in the Midlands and the North. However, the capacity is overloaded for large periods of the day and it is extremely vulnerable to incidents – over 300 times a year the Crossing is fully or partially closed. Due to congestion and delays, it affects productivity and constrains economic growth. We are clear that a new Lower Thames Crossing, to the east of Gravesend, is required to unlock growth, improve journey time reliability, improve network resilience, and enable opportunities for regeneration.

Kent County Council (KCC) remains in strong support of the need for a Lower Thames Crossing (LTC). Kent's geography makes it unique in the transport challenges it faces, especially in its role as a strategic international gateway. While being an international gateway brings many economic opportunities, it also brings significant challenges. One of these challenges is the need to ensure high quality, free-flow strategic routes which cater for this gateway function i.e. traffic on the strategic road network, without disbenefit to Kent's residents and businesses needing to travel within the county. Long-distance traffic must remain on the Strategic Road Network (SRN) and must not impact on the local road network.

For many years KCC has made the case for the urgent need for a new Lower Thames Crossing that will cater for strategic traffic and the gateway function, as well as providing greater connectivity north and south of the Thames Estuary to boost both local and national economic productivity.

The LTC provides the first section of a new strategic route from Dover to the Midlands and the North, essential given the 5% per annum growth in cross-channel

traffic, especially freight, forecast at the Channel ports. However, alongside a new Lower Thames Crossing, improvements are needed to the M2/A2 to complete this strategic route. This includes dualling of the remaining single carriageway sections of the A2 from Lydden to Dover, free-flow connection between the M2 and A2 at M2 Junction 7 (Brenley Corner) and capacity upgrade of the M2 from Junctions 4 to 7 to three lanes and/or smart motorway. In addition, the connections between the M2 and the M20 need to be improved to allow transfer of strategic traffic between the two motorway corridors, which will be essential if Channel Tunnel traffic is also to benefit from the new Lower Thames Crossing. These connections include an upgrade of the A229 and its junctions with the M2 (Junction 3) and the M20 (Junction 6) and the A249 including M2 Junction 5 and M20 Junction 7.

These improvements will enable Kent's policy objective of 'bifurcation' to be implemented, splitting traffic to and from the Channel ports between the M20/A20 and M2/A2 corridors to accommodate the significant forecast growth of the Port of Dover and the Channel Tunnel. A bifurcated route to the Channel ports will also help to release capacity and therefore relieve the pressure on the M20, especially during times of disruption to cross-Channel services which results in queuing freight traffic.

The new crossing will also bypass the congestion on the M25 and at the Dartford Crossing, and enhance network resilience by providing an alternative route to the existing crossing when there are incidents and delays. Although the introduction of free-flow tolling (Dart Charge) in November 2014 has seen some improvements in journey time and congestion at the Dartford Crossing, it has done nothing for resilience when incidents occur that affect the flow of traffic at or around the Crossing, with a consequential effect of gridlock on the local road network.

North Kent, and the Thames Gateway more generally, is crucial to supporting London's role as a global city and continues to offer huge opportunity for growth in terms of homes, jobs and Gross Value Added (GVA) for the UK economy. In the period to 2031, North Kent is anticipating growth of 78,600 homes, 186,800 population and around 77,600 new jobs [1]. The area includes the Government's flagship Ebbsfleet Garden City, which could itself generate 15,000 homes and 30,000 jobs.

2. Our preferred route for the Lower Thames Crossing

Q2a. Do you support or oppose our selection of the preferred route for the Lower Thames Crossing?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q2b. Do you support or oppose the changes we have made to the route since our preferred route announcement in 2017?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q2c. Please let us know the reasons for your response to Q2a-Q2b and any other views you have on our selection of a preferred route for the Lower Thames Crossing.

Kent County Council (KCC) remains in support of the Secretary of State's preferred route alignment; Option C to the east of Gravesend, with the Western Southern Link (WSL) linking the new crossing and road with the A2. The removal of the A226 junction is also welcomed by KCC in line with our previous consultation response in 2016 which raised our concerns regarding the impact on the Local Road Network. Furthermore, we are also pleased to see the extension of the route to include the upgrade and widening of the A2 between M2 Junction 1 and the LTC junction; albeit we have some concerns regarding the arrangement which are further explained in response to questions 3 and 4 of this consultation response.

KCC continues to agree that the preferred route provides a great opportunity to deliver wide ranging benefits to the South East and the UK. A new Lower Thames Crossing (LTC) at Location C would not only benefit the logistics sector (both in Kent and nationally) by enabling more reliable and quicker journey times and thereby reducing operating costs, but also improve access to potential employees and to other businesses, including to the Midlands and North (and its aspirations to become the Northern Powerhouse), which will in turn make Kent a more attractive place to do business.

Furthermore, a new road south of the river linking the tunnel to the A2 east of Gravesend (the WSL) is expected to have fewer negative impacts on the

environment and local communities compared to the alternative alignment that was consulted on previously; and will provide the greatest economic benefits and network resilience.

Most of the work for the link road from the tunnel to the A2 should be able to be completed offline, thereby minimising disruption during the construction phase. The widening of the existing A2 from M2 Junction 1 to the LTC junction and the junction itself, will however, cause disruption during construction and result in changes to local access arrangements onto the A2 at the Gravesend East and Brewers Road junctions. KCC urges Highways England to reassess these local access arrangements to ensure all local connections can be made – see response to question 4 of this consultation response.

In comparison of the preferred route with the other options previously considered, whilst Route 1 at Location A would provide extra capacity at the existing Dartford Crossing itself, it would not mitigate constraints on the road network on the approach to the Crossing. The same issues when either the tunnels or the QE2 Bridge have to be closed would remain, with the resultant congestion affecting not only the strategic road network but the local road network in Dartford and south east London.

In addition, growth in the Dartford area (particularly that generating employment opportunities), is constrained by the congestion at Junctions 1a, 1b and on the A2. This prevents access to the Strategic Road Network (SRN) for businesses and causes the frequent severance of Dartford town centre from the rest of the Borough. Congestion at these junctions and on the A2 can result in the B255 St Clements Way and the A206 Crossways Boulevard being used as an alternative route with implications for Junction 1a and, importantly, the A2 Bean Junction and the A226 London Road/St Clements Way Junction. A new Crossing at the existing Dartford Crossing (Location A) would not resolve these problems but would in fact worsen them, imposing constraint on the planned growth for the Ebbsfleet Garden City.

It is also worth noting that it is for economic reasons that KCC opposed the previously ruled out Location B. The principle reason for this is the detrimental impact it would have on plans for growth and regeneration in North Kent, which have now been given further impetus with the formation of the Ebbsfleet Development Corporation and the Government's plans to create a 21st Century Garden City at Ebbsfleet.

Network Resilience

Congestion and incidents on the approaches will to a large extent negate the benefits of additional crossing capacity. Constructing the crossing at the existing Dartford Crossing would be a missed opportunity to boost British business and the national economy, and enhance transport connectivity between Kent and Essex, as well as nationally and internationally. Conversely, constructing a new crossing at

Location C provides an alternative route in the event of an incident at the Dartford Crossing that can be accessed by remaining on the Strategic Road Network.

Strategic Transport Benefits

It is clear that a new LTC must provide a strategic network solution rather than primarily catering for shorter journeys. Location C provides this connectivity both from Kent into neighbouring Essex, and most significantly, from Europe to the concentration of distribution centres in the Midlands and the North. As a result, increased capacity at Dartford will not provide nearly the same scale of benefits as a Lower Thames Crossing to the east of Gravesend.

Air quality and public health

Nevertheless, a new road, at the preferred location or elsewhere, will result in a worsening of air quality. Although initial Highways England air quality modelling demonstrated that no properties along the new route are at risk of exceeding legal limits, future modelling needs to consider the effect on background air quality and the cumulative effect of additional traffic in future years. The same applies to noise impacts. For air quality, noise and visual impacts, mitigation measures need serious consideration such as noise-reducing fencing and appropriate landscaping. In developing mitigation measures, Highways England should commit to working with KCC, Gravesham Borough Council, Medway Council, and other relevant organisations.

It is important that a comprehensive impact study on health is made by Highways England in consultation with Public Health England. In general, any road development should seek to improve air quality and every possible effort should be to secure improvements in local air quality and every possible effort should be to secure improvements in local air quality related to this development, particularly in areas currently exceeding the air quality standards and designated as Air Quality Management Areas (AQMA).

Short-term exposure to high levels of various air pollutants can cause a range of adverse health impacts including exacerbation of asthma, effects on lung function, increases in hospital admission for respiratory and cardiovascular conditions, and increases in mortality. Long term exposure to air pollution also increases mortality risk, especially long-term exposure to particulates.

In-depth information should be used to make an informed decision on route choices. Kent Public Health would urge Highways England to undertake an impact assessment using current data to develop an understanding of the air quality issues for the population in the area. The initial screening assessment (using the Design Manual for Roads and Bridges (DMRB)) considers basic fleet make-up/traffic speeds to predict nitrogen dioxide (NO2) pollution levels. There are currently gaps in the scheme design details that will influence air pollution along parts of the routes, and

more detailed information on traffic composition and speed would need to be considered further. Only then can mitigating actions be developed.

Further, it is unclear whether other development proposals/consented development that could influence traffic flows in the areas of the route options have been considered (e.g. large residential or industrial developments). It would be expected that more detailed assessments will need to be undertaken that consider the routes in more detail together with the potential for impacts during construction (e.g. potential to increase congestion that could lead to worsening air quality).

From a Public Health perspective, any increase in exposure to NO2 and other air pollutants such as particulate air pollutants (e.g. PM10 and PM2.5) in locations where the standards are currently exceeded, or where a predicted increase in exposure would result in a new exceedance, should be viewed as undesirable and avoided if practicable. Whilst NO2 is a key traffic related pollutant, it is expected that Highway England must consider other pollutants (e.g. PM10/PM2.5) within the assessments completed, given the evidence of long-term impact on health.

In addition to air pollution modelling, it will be expected that monitoring is done before and after development: before to establish background/current concentration and post-development for the assessment of actual air quality impacts arising from the scheme on sensitive receptors, to allow for validation of the modelling methodology and provide valuable baseline data that could be used in the assessment of potential air quality impacts from similar road schemes in the future.

Heritage

On historic environment grounds we remain supportive of the selection of the preferred route as other route options, particularly Options B, D1, D2 and E, would on current evidence have a greater negative effect on the historic environment.

3. Sections of the route

Q3a. Do you support or oppose the proposed route south of the river?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q3b. Please give us your comments or any other views you have on the proposed route south of the river, including structures such as bridges, embankments and viaducts.

In the response to the 2016 consultation, Kent County Council (KCC) strongly supported the Western Southern Link (WSL) as the route south of the river and asked for further changes to the proposed alignment to remove the junction with the A226 (due to impacts on local traffic), extend the tunnel portal further south (to reduce the impact on Chalk), and to lower the route generally to reduce its visual and environmental impacts. The response also called for changes to the A2/Lower Thames Crossing (LTC) junction to increase the speeds of the junction to 70mph and thereby enhance the economic benefits of the scheme through improved journey time savings. This latest iteration of the proposed route takes steps to address all of those concerns and KCC is therefore supportive. Nevertheless, there are still elements of the route to the south that cause particular concerns to local residents and to KCC as the Local Highway Authority.

The junction with the A2 has been upgraded since the 2016 consultation to permit 70mph on the links between the LTC and A2. KCC supports this because it will create a true motorway-to-motorway connection and maximises the economic benefits of this new and strategically important road by delivering journey time savings.

The introduction of three lanes along the whole length of the proposed route is welcomed because it future-proofs the scheme for many years after opening. Providing adequate capacity is essential to manage and reduce congestion into the medium to long-term given the forecast return to capacity of the Dartford Crossing approximately 15 years after the LTC is opened.

The elevation of the proposed junction with the A2 has also been lowered with some slip roads in tunnel under the A2. Lowering the profile of the junction will reduce its visual impact on the landscape and on nearby residential properties. However, the new junction design is complex and so a comprehensive road signing scheme must be in place to ensure that drivers can make early lane choices and avoid

unnecessary weaving. See response to question 4 for further comments about the proposed LTC/A2 junction and its connections with the local road network.

Following traffic modelling and analysis of the impact on the local road network, KCC welcomes the removal of the previously proposed junction with the A226. This would have led to significantly increased traffic flows through Higham and potentially problematic 'rat-running' through Gravesend should there be an incident affecting access to the LTC or the Dartford Crossing. There was significant local objection to this junction and so KCC appreciates that Highways England has taken heed of that feedback.

The removal of the previously proposed junction with the A226 has also enabled the tunnel portal to be moved 600m further south, which will reduce the unacceptable impact of severing Chalk village from its church as well as reducing the impacts on the nearby Ramsar site. KCC's support for the scheme was conditional on this increased length of tunnel, emphasising how important it is to the local area and residents.

Moving the tunnel portal even further south and adding 'cut and cover' tunnel to the sections of route in cutting until the LTC/A2 junction, if technically feasible, would also be welcomed. In response to the consultation in 2016, KCC did make the case for the section of route closest to urban Gravesend at Riverview Park to be covered to minimise severance, noise and visual impact for those residents as well as providing greater opportunity for environmental mitigation with potential vegetation planting on top of the 'cut and cover' tunnel. Although the route is in a deep cutting at this point, KCC urges Highways England to review the possibility of covering this section of route. This would make a significant difference to local communities close to the proposed route by reducing severance, noise and visual intrusion. At the very least, the width of the Thong Lane green bridge should be widened by 50 to 100 metres on either side. This in combination with the tunnel portal being moved further south and/or increased 'cut and cover' will also reduce the distance that the Public Right of Way (PRoW) needs to be diverted, therefore minimising severance between local communities and open amenity spaces.

The high level bridge installed to maintain PRoW (see response to Question 5b) is a safety concern, therefore moving the tunnel portal further south and/or increased 'cut and cover' tunnel, i.e. providing a wider 'green bridge', will allow access across the new road and reduce the need for a high level bridge across the deep cutting.

Since the Preferred Route Announcement (PRA), the scheme development boundary has been extended to include substantial work to the A2 as far as M2 Junction 1. KCC understands that these are necessary for safety but any significant impact on Shorne Woods Country Park would be unacceptable. Where the A2 is brought closer to the Park, and other properties, the scheme must provide mitigation for any increase in noise that would otherwise prevent the continued enjoyment of

these landscapes and woodlands. Likewise, any other environmental impacts must be mitigated.

Within the submitted documentation there have been no proposals outlined on how the transitions of the existing and proposed ownership of land, roads and structures will be made in terms of future maintenance and commuted sums. Early engagement and points of contact need to be established to cover the following:

- Establishing ownership of all existing highway structures on the route.
- The extent of construction/demolition of all existing KCC structures.
- Any new or temporary structures proposed.
- Future ownership of modified or proposed new structures in Kent.
- KCC involvement in Technical Approval (TAA) matters.

Finally, KCC reiterates its support for the Western Southern Link (WSL) over the Eastern Southern Link (ESL), which was the preferred option identified in the 2016 consultation. Even with the amendments made since the PRA, the Western Southern Link has reduced environmental impacts and provides a better connection south of the river.

Comments on the environmental impacts of the route south of the river are found in our answer to question 6 of this consultation.

Q3c. Please give us your comments on the tunnel, the north and the south tunnel entrances and any other feedback you have on this part of the proposed route.

In the response to the 2016 consultation, KCC's support was contingent on several factors, including that the tunnel portal on the south side of the river was moved further south. KCC therefore welcomes the extension of the tunnelling by an additional 600m so that the village of Chalk is not severed from its church and that the risk of damage to the nearby environmentally sensitive sites is reduced.

In heritage terms, KCC further strongly supports the extension of the bored tunnel beyond the alluvial deposits south of the Thames and St Mary's Church, as this should, with appropriate design, provide protection for buried archaeological landscapes, important waterlogged paleoenvironmental evidence, important heritage assets such as the Milton Rifle Range and St Mary's Church.

However, KCC also asked that the section of route closest to urban Gravesend (at Riverview Park) was also tunnelled or at least used a 'cut and cover' design solution. This has not been done (although we acknowledge that the route is in a cutting at this point) and we ask that Highways England reappraise this option to ensure that any negative impacts on the local residents (such as severance, noise and visual impact) are minimised as far as practicably possible.

KCC is also supportive of the design amendments to allow three lanes of traffic through the tunnel. Expanding on the originally proposed two live lanes of traffic with a hard shoulder through the crossing will allow for greater capacity from the day of opening. Furthermore, KCC fully supports the tunnel being design to standards which allow dangerous goods vehicles to travel through without the requirement of a convey. This arrangement at the existing Dartford crossing further exacerbates the congestion issues, especially in times of disruption.

When designing the tunnel, KCC asks that appropriate technical measures are taken to vent smoke and/or fumes from the tunnel bores in the event of a vehicle fire, hazardous cargo or other leak are incorporated into the detailed design. Cross passages between tunnel bores should also accommodate emergency services requirements in relation to operational activity and evacuation, including unhindered movement of operational emergency response equipment, including breathing apparatus and stretchers bearing casualties.

Q3d. Do you support or oppose the proposed route north of the crossing?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q3e. Please give us your comments or any other views you have on the proposed route north of the river, including structures such as bridges, embankments and viaducts.

Essex County Council (ECC) and Thurrock Council are best placed to assess the impacts of the proposed route north of the crossing and KCC would defer to their opinions on this occasion.

4. Connections

Q4a. Do you support or oppose the proposed junction between the Lower Thames Crossing and the M2/A2?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q4b. Please let us know the reasons for your response to Q4a and any other views you have on the relationship between the Lower Thames Crossing and the existing road network south of the crossing, including new bridges, underpasses and diversions.

KCC has concerns regarding the arrangements proposed at the new junction with the A2, and the impact these would have on local connections. Additional modelling must be used to determine what mitigation is necessary and whether any restrictions need to be placed on local roads to prevent inappropriate route choice by strategic traffic. It is KCC's view that strategic long-distance traffic must remain on the Strategic Road Network (SRN) and not leak on to the Local Road Network to the disadvantage of local communities. KCC's views on this extend to the A228 and A227, which are both unsuitable for large volumes of cross-motorway traffic (especially HGVs). More detailed comments on each connection are provided below:

M2 Junction 1

Kent County Council (KCC) welcomes the widening of the M2 at Junction 1 to the junction of the LTC provide an additional lane. This section of the M2/A2 is already heavily congested during peak times and providing an extra lane would help to alleviate further pressure generated by additional traffic for the new crossing. Furthermore, currently the inside running lane of the A2 east-bound before M2 Junction 1 acts as an off-slip for the A289. This causes conflicts with HGVs, often left-hand drive, needing to change lanes into the second running lane in conflict with other motorists needing to change into lane one to slip-off to the A289 (and A2 non-trunk) for Rochester and Strood. Providing a fourth lane through this junction will achieve both additional capacity and reduce the potential for conflict.

Eastbound parallel connector road to M2 (at M2 Junction 1)

The introduction of two additional segregated lanes to prevent weaving around the junction of the M2/A289 (M2 Junction1) and the proposed Lower Thames Crossing (LTC) junction is supported, provided that it can be accommodated within the existing highway boundary and will not impact on Shorne Woods Country Park.

There is currently a poor safety record on the M2 Junction 1 due to high volumes of traffic weaving. Traffic travelling at high speeds along the M2/A2 London-bound comes into conflict with slow-moving traffic entering the A2 via the A289. This junction is on a steep uphill gradient, which causes greater speed variations between HGVs and cars. The introduction of a two-lane segregated section is therefore welcomed to provide both capacity improvements and safety benefits.

Gravesend East junction

Whilst KCC is supportive of the Gravesend East junction connecting directly to the LTC, allowing local residents to benefit from this new strategic link to the north, the County Council is concerned regarding the removal of direct access to the A2 eastbound. The access from the Singlewell area of Gravesend via Hever Court Road and Valley Drive has become more convoluted for residents to access the A2, especially the access to the A2 east-bound on-slip and to a lesser extent the west-bound off-slip, as part of the new junction and link road. The current proposal will add more traffic onto Henhurst Road and the proposed new roundabouts on the new link road.

Currently, in the peak periods there are severe queues on the off-slips of the A2 for the Gravesend East junction. There is further concern that motorists may divert through the Tollgate/A228 Wrotham Road junction to U-turn back onto the A2. This junction, however, also suffers severe queue lengths in the peak periods and new flows through the roundabouts may cause further disruption. KCC therefore urges that Highways England undertakes a review of the design of the junction to assess whether it is possible to accommodate both local access onto the LTC and maintain the Gravesend East junction access to the A2 east-bound.

KCC also urges that Highways England undertakes micro-simulation modelling of the impacts of the new local connections to the A2 and LTC on the Local Road Network, including in Gravesend and the surrounding villages (such as Sole Street, Chalk, Thong, Cobham, etc.) as traffic could divert via unsuitable rural roads to avoid the convoluted link road to access the A2.

Brewers Road Junction

The current proposal for east-bound traffic to access the A2 from the Gravesend East junction, directs traffic through multiple roundabouts on the new link road to then use the existing east-bound on-slip from Brewers Road. Currently there are no improvements proposed for this on-slip to a junction that currently does not have a right turn lane. With the additional traffic from Gravesend East routed this way to access the A2 east-bound, queues to turn right could occur and this will have a determinantal effect on Brewers Road and the surrounding roads and villages.

To overcome this issue and as previously stated, KCC urges Highways England urgently review the arrangements for accessing the A2 eastbound via the Gravesend

East junction. Providing direct access onto the M2/A2 mainline would reduce the impact on the Brewers Road junction. However, at the very least this junction will need to be upgraded as it is currently unsuitable for the number of traffic movements proposed as a result of the new crossing.

A2/A289 to Gravesend East

Furthermore, the proposed arrangements create a more convoluted means of accessing the Gravesend East junction when travelling from the Medway Towns via the A2 and A289. As part of the review of the junction, KCC also asks Highways England to review these local connections to consider the feasibility of adding a slip from the parallel connector road to the off-slip of the M2/A2 mainline.

Henhurst Road Junction

The new local junction arrangement, proposed within General Arrangement Plan Sheet 4 of Map Book 1: Local Arrangements, displays a tight bend when exiting the parallel connector roads travelling westbound to access the Gravesend East junction. KCC has concerns regarding the safety of this proposed arrangement given the radius of the bend. There are also further safety concerns around when congestion occurs in peak times thus resulting in the potential for traffic to back up around the tight bend. The close proximity to the roundabout junction could cause a blind spot for drivers who are unaware of the arrangement/congestion and approaching the bend at 70mph speeds.

Junction Profile

KCC welcomes that the profile of the junction has been adjusted so that the visual and landscape impacts are minimised, including passing some of the connections under the existing A2. The proposed tree planting between the LTC/A2 junction and the Riverview Park area of Gravesend is essential to provide environmental mitigation, but also to provide a barrier between the residents and the new road in terms of noise and the outlook from their residences. This new tree planting must be effectively protected to prevent any degradation of this resource in the future.

Q4c. Do you support or oppose the proposed Tilbury junction?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don’t know

Q4d. Do you support or oppose the proposed junction between the Lower Thames Crossing and the A13/A1089?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q4e. Do you support or oppose the proposed junction between the Lower Thames Crossing and the M25?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q4f. Please let us know the reasons for your response to Q4c-Q4e, indicating which junction or junctions you are referring to, and any other comments you have on the proposed connections of the route north of the crossing.

For the details of junctions and structures proposed north of the river, we defer to the views of those Local Authorities directly affected and who may adopt such new infrastructure. However, we have a number of general comments about those connections.

Local connections are vital to ensure that the forecast economic and regeneration benefits are experienced in Kent, Thurrock and Essex. Indeed, one of the scheme objectives is "to support sustainable local development and regional economic growth in the medium to long term." In 2010, KCC commissioned consultants KPMG to produce a high-level assessment of the economic benefits of a new crossing based on an opening year of 2021. This showed that a new crossing (in the location chosen) could potentially contribute £12.7 billion to the local economy, mainly through job creation.

The new crossing and road between the A2 and M25 will provide a new strategic link between the Channel Ports and the Midlands and North. This will improve journey times and reliability, as well as reducing operating costs for the logistics sector. These improvements will make Essex, Thurrock and Kent more attractive places to do business, but these benefits can only be realised by the inclusion of local connections (both north and south of the crossing).

The KPMG study concluded that the improved connectivity between the north and south of the Thames would lead to improvements in productivity, attract businesses, and increase economic activity in north Kent/south Essex. The combined benefits to Kent and Essex alone were estimated at up to £15m per annum. Some of these benefits are from wider access to job opportunities afforded by enhanced connectivity across the river, which increases the size of the effective job market. A study by URS (2012) supported this.

Tilbury junction

We support the Tilbury junction and have made further comments on the proposed rest and service area under question 8.

The consultation materials initially state that the Tilbury link road was excluded due to modelling results indicating delays significant impacts on the local roads but then goes on to say that the junction provides the opportunity to provide a link in future when the necessary funding is available. We would be disappointed if the scheme missed any opportunities to construct important local links due to budget constraints. In the long run, building additional link roads will incur greater costs due to duplication of effort years after building the Lower Thames Crossing (LTC) when all the construction infrastructure is already in place.

We appreciate that Thurrock Council are frustrated at this omission and, as currently designed, their area will experience many of the negative impacts but without the accessibility to the LTC that would have provided economic benefits. Therefore, we support the inclusion of the junction but ask Highways England to work with Thurrock Council to find a solution that enables their residents to benefit from this once-in-a-lifetime opportunity for a new crossing.

A13/A1089 junction

The new crossing will attract traffic between Kent, the Channel Ports and East Anglia. Therefore, the connection from the south with the A13 eastbound is vital to support these flows and divert traffic from the Dartford Crossing. The connection from the north will provide some resilience for the A127.

The junction is not an all movements junction, with notable omissions being the ability to join the A13 westbound from either direction on the LTC, and no ability to leave the LTC to use the A1089. Together, and with no proposed Tilbury link road, this leaves Thurrock residents with the ability to join LTC but not to leave it and similarly restricts movements from Kent into Thurrock. Whilst we acknowledge that these movements could be catered for by joining the A13 eastbound and using the Manorway Roundabout (either leaving there to join the A1013 or turning back westbound on the A13), this is not providing an efficient local connection to achieve the economic benefits that have been forecast. Furthermore, traffic for the Port of Tilbury would be forced to make this U-turn manoeuvre at Manorway Roundabout

and so Highways England must ensure they are satisfied that it has sufficient capacity to support this and any forecast increase in HGV traffic at the port.

As with the Tilbury junction, whilst we support these local connections, we urge Highways England to engage with Thurrock Council to explore more user-friendly junctions that help communities north of the river to benefit from the new LTC – particularly as these same communities will experience many of the negative impacts from construction and traffic increases.

M25 junction

As a strategic link between the Channel Ports and the Midlands/North, the proposed junction with the M25 (allowing northbound LTC traffic to continue north on the M25, and southbound M25 traffic to continue south on the LTC) supports the primary traffic movements. However, without a link from the LTC to the southbound M25 and a link from the northbound M25 to the LTC, the new road fails to provide true resilience for the Dartford Crossing. For example, with a closure of one of the tunnels at Dartford, traffic could not divert to the A2 and use the LTC to access the areas around Lakeside without making the diversion via the U-turn at Manorway Roundabout. Again, Highways England need to be clear of the impact on that junction and other routes should traffic divert in large numbers with a Dartford Crossing northbound closure.

References:
KMPG (2010) The Lower Thames Crossing: Regeneration and Funding Report
URS (2012) Third Thames Crossing Regeneration Impact Assessment

5. Walkers, cyclists and horse riders

Q5a. Do you support or oppose our proposals in relation to public rights of way?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q5b. Please let us know the reasons for your response to Q5a and any other views you have on our plans in relation to public rights of way, including the new routes we have proposed.

The Public Rights of Way (PRoW) network provides significant opportunities for outdoor recreation and active travel across the region. With this in mind, it is imperative that the Lower Thames Crossing (LTC) does not deter use of these paths through noise, air quality, drainage or landscape impacts. Where modifications to existing path alignments are required to enable the development to proceed, appropriate diversion routes should be discussed with the PRoW and Access service in advance and processed using the relevant legislation procedures.

Assessing impacts on the PRoW network

As a general observation, it is noted that the consultation documents refer to 'PRoW and bridleways' (e.g. PEIR Vol.1 Page 474). The applicant is reminded that a public bridleway is a public right of way and does not need to be referenced separately.

In order to monitor path use before, during and after the construction phase of the project, it is requested that people counters are installed on PRoWs at key gateway locations as soon as possible. Data obtained from these counters can be used to monitor existing path use, influence the design of the LTC and assess the long-term impacts of the project. It is recommended that electronic people counter sensors are installed (instead of manual surveys), as these will be able to operate 24 hours a day and capture sporadic path users.

Concerns are raised with regards to the impact of the project on quiet rural lanes, during both the construction and operational phase of the LTC project. These roads provide useful connections for pedestrians, equestrians and cyclists travelling between PRoW routes. The project could potentially deter public use of the PRoW network if these road links are designated as haulage routes or vehicular traffic substantially increases along the lanes as a consequence of the LTC. Highways England should therefore clarify the measures that will be taken to minimise these impacts.

With reference to the attached georeferenced plan, the following comments focus on PRoW that are recorded within the application boundary.

Impacts on Public Footpaths NG1, NG2 and NG3

These PRoW may pass through the application site boundary, but the direct impacts of the LTC on these paths are considered to be negligible as the proposed tunnel section will pass underneath the routes.

Impacts on Public Footpath NG7

The proposal would have a significant impact on this PRoW as the public footpath currently passes through open countryside, providing a valuable off-road walking connection between Shorne and Gravesend. The proposed road cutting through the landscape would dissect the public footpath and transform the character of the route. On a positive note, the applicant has acknowledged this impact and proposed a diversion of the route across a new bridge. This would appear to preserve east-west network connectivity and prevent severance of the PRoW network. However, a better solution would be possible with the tunnel portal moved further south and/or increased 'cut and cover' tunnel of the section of route in deep cutting – see response to question 3b.

However, if increased tunnelling / 'cut and cover' is not possible, then to improve the character of this diversion proposal, it is recommended that the cross field alignment of Footpath NG7 is diverted directly towards the proposed bridge crossing, as this would provide a more direct and convenient route for the public. This alignment would also minimise the proportion of the footpath that is located directly adjacent to the new road in deep cutting. While measures may be taken to provide a high quality diversion route, it would be preferable to minimise the length of public footpath that is directly adjacent to the road that is in deep cutting.

Impacts on Public Footpath NG8

The proposed LTC would have a significant impact on this right of way, as the new road would pass directly across the public footpath. To prevent severance of the PRoW network, the applicant has proposed a diversion route that would pass alongside the new road and across a new bridge. Although this diversion proposal would change the character and alignment of the existing right of way, the retention of north-south connectivity between Thong Lane and the A226/Rochester Road is welcomed.

At the southern end of public footpath NG8, a green bridge has been proposed over the main LTC road to retain access along Thong Lane. This new bridge would appear to include a segregated access route for Non-Motorised Users (NMUs). While the provision of a traffic free route along the bridge for NMUs is supported,

consideration should be given to the creation of new off-road access at the south eastern end of the bridge. This would ensure that NMUs are not forced to re-join the road and share the carriageway with vehicles. The widening of the Thong Lane green bridge (see response to Question 3b) would help to achieve this.

Impacts on Public Footpaths NS169 and NS167

With reference to the general layout plans, an attempt has been made to retain PRoW connectivity across the LTC by consolidating existing routes and diverting paths across new bridges. While these efforts are welcomed, consideration must be given to the character of these routes and the experience of path users, who would be passing across multiple lanes of vehicle traffic.

With reference to General Arrangement Plan Sheet 3, the drawings indicate a 'Cycleway and public right of way diversion' to the south east of Thong village. The creation of this cycleway would increase the provision of off-road access for cyclists and is welcomed, but the actual PRoW that would be subject to a diversion is not clear.

The PRoW and Access service requests further discussion with Highways England to consider how these PRoW can be successfully integrated within this site layout. As a general principle, east-west connectivity for NMUs must be maintained and preferably enhanced through the LTC project. This site layout should also provide sustainable access opportunities for the local population, ensuring they are not dependant on private vehicle use for accessing residential settlements, community facilities or outdoor recreation spaces. For example, existing connections between Shorne Woods Country Park and the densely populated urban area of Gravesend must be preserved.

Impacts on Public Footpaths NS174

With reference to General Arrangement Plan Sheet 3, an attempt has been made to include this right of way on the drawings, but this illustrated alignment does not follow the Definitive Alignment of the public footpath. If it is the intention of Highways England to seek a diversion of this path, this proposal should be clarified with the PRoW and Access service so that an assessment of the plan can be made. It is also requested that Highways England investigate the potential for improving the route through the LTC project. In addition to surfacing improvements, there may be scope for upgrading access rights along the path to increase the provision of traffic free equestrian and cycling routes in the area.

Impacts on Public Footpath NG17

The right of way passes along the boundary of the application site. While the proposal is not expected to have a significant impact on this right of way, General Arrangement Plan Sheet 3 illustrates a dashed pink line in close proximity to the right

of way, suggesting the public footpath may be diverted. Revised plans should therefore be provided to show the existing PRoW recorded in this area and any diversion proposals for these routes.

Impacts on Public Footpath NS367

The proposed LTC would have a significant impact on this right of way as the public footpath would be obstructed by the new link and roundabout, located to the south of the A2. Existing use of this path may be considered low due to its limited connectivity, but the future status of right of way must be considered as it remains legally recorded on the Definitive Map and Statement. The applicant will therefore need to clarify their future intentions for this public footpath.

Impacts on Public Footpath NS177

The proposal should not have a significant impact on this right of way, but the public footpath does pass through the boundary of the application site, providing an important link with Jeskyns Country Park. Consideration should be given to improving the character of the path and upgrading the status of the route to a bridleway, which could potentially enhance links with the surrounding access provisions for NMUs.

Impacts on Public Footpaths NS175A, NS359 and NS365

These PRoW may not be significantly affected by the LTC proposal, but they do provide a safe route across the A2 and HS1 railway line, which currently act as barriers to north-south NMU movement. Highways England should be aware that there is a long-term aspiration to establish higher access rights for equestrians and cyclists along these routes, which would improve connectivity between the Cyclopark and the surrounding access network. As these PRoW are located within the application site boundary, the LTC provides an excellent opportunity to accelerate the delivery of this access improvement project. The PRoW and access service would therefore welcome further engagement with Highways England to discuss how this may be achieved.

Impacts on Byway NS195 and the A2/Thong Lane Green Bridge

With reference to General Arrangement Plan Sheet 3, the applicant has drawn a dashed pink line across the proposed green bridge, indicating the presence of a PRoW across the new structure. It is not clear if the applicant intends to establish or divert a PRoW across this bridge, but it is assumed that access for NMUs will be provided, which is segregated from vehicles.

Highways England should be aware that this bridge is a strategically important link between Jeskyns and Shorne Woods Country Park, as it provides a valuable crossing point across the A2 for NMUs. With this in mind, it is requested that the

bridge incorporates high quality access provision for walkers, cyclists and equestrian users.

Concerns are raised with the proposed new slip road on the south side of this bridge, as it is not clear how NMUs would safely cross the new road. The introduction of an at-grade road crossing for NMUs should be avoided, as this could introduce safety issues for NMUs and deter public use of the route, which would have serious implications for connectivity between the two parks. If this is not possible, an assessment of the road crossing should be made to determine the type of infrastructure that is required to assist users crossing the carriageway. Revised plans should then be submitted, which include safe and secure road crossing facilities for NMUs.

Impacts on Public Footpaths NS179, NS180 and NS161

These PRoW are located within the application boundary, but the potential impacts on the paths and not clear. This is because the routes have not been clearly illustrated on the plans. It is therefore requested that the applicant submits revised plans showing how the existing routes will be integrated within the LTC project.

Impact on Shorne Woods Country Park

The loss of the A2 London bound junction at Cobham and changes to the coastbound A2 traffic access will directly impact site visitors to Shorne Woods Country Park which has over 350,000 visitors per year. Most of Shorne Woods visitors travel by car and changes to existing access arrangements have the potential to impact on visitor numbers, therefore KCC asks for brown tourist signs to be installed to clearly signpost the new access route to the Country Park.

Movement of the road alignment north towards the existing development line boundary and the Country Park is asked to be avoided if possible. Construction on this land has the potential to impact on dormouse which are immediately adjacent to the existing A2 and an area of Hornbeam Maidens which are veteran trees and rare for the area. Furthermore, it also risks severing the 10km Darnley Trail, the blue multiuser route within the park. KCC may also have to consider relocating of the outdoor education space that accommodates over 4,000 children per year. The 20th Century clay works history would also be destroyed and also and an old WW2 camp where the shelters are bat roosts and are known to have brown long eared bats roosting in them every year.

However, green bridges can provide dormice corridor links from Shorne Woods into Ashenbank and Jeskyns (Thong Lane) and Cobham Park (Brewers Rd) if they are wide enough and have scrub planted on them as oppose to just a narrow grass verge so there is good scope for habitat corridors if they are done wide enough. Therefore, KCC would ask Highways England to review and consider the feasibility of widening the green bridges included within the latest proposals for the scheme.

The acknowledgement of the England Coast Path within the PEIR document is welcomed as this new National Trail is scheduled for completion by 2020. This would mean that new Coastal Access rights are likely to be in effect during the construction phase of the LTC.

The Coast Path should not be directly affected by the LTC, as this section of the trail will pass over the proposed new tunnel. However, impacts on the Coast Path will need to be considered if materials and spoil excavated from the project as to be transferred by the sea. If materials are to be transported via the River Thames, there would be a requirement for new marine infrastructure, which may then have a direct impact on coastal access.

Cross river provision for NMUs

Current cross-river provision for cyclists includes a vehicle that drives cyclists across the Dartford Crossing on a limited timetable and a ferry across the river at the site of the proposed route. The popularity of this existing vehicle service should be reviewed to ascertain demand for a similar service operating across the proposed LTC.

PRoW and Access developments

With reference to the National Planning Policy Framework (NPPF) and National Policy Statement for National Networks (NPSNN), this project provides an opportunity to improve the existing PRoW network and develop new links for active travel and outdoor recreation. The creation of new paths and upgrading of existing routes should be considered as positive outcomes of the scheme. The public benefits of such work would compensate for the disruption caused by temporary network closures and potentially offset the loss of any permanent path extinguishments or diversions, which are required to facilitate the delivery of the LTC.

The applicant should be aware of the County Council's Countryside and Coastal Access Improvement Plan, which highlights the lack of existing off-road equestrian access provision in this region. The LTC provides an opportunity to address this issue, as new routes with higher user rights could be created within the development area. The potential for establishing new equestrian provision and cycle routes, which provide safe alternatives to existing on-road routes, should continue to be explored.

The following list details access enhancements for NMUs that could potentially be delivered through the LTC project:

- Improving north-south connectivity across the A2 for cyclists and equestrians. This could be achieved by upgrading public footpath NS175A and Hares Bridge.

- Improving east-west connections for NMUs between Shorne Woods Country Park, Jeskyns Community Woodland and the Gravesend Cyclopark. This could be achieved by creating a new off-road path to the south of the A2.
- Enhancements to the Darnley Trail that would make the path accessible for all.
- Improvements to the Thames path for pedestrians and cyclists.
- Improved parking provision for equestrian users with horse boxes.
- Improving the accessibility of existing PRoW for users with limited mobility.
- Upgrading the status of existing public footpaths to increase off-road access provision for cyclists and equestrians.
- Creation of new PRoW or Permissive Paths that would address gaps in the existing access network and improve connectivity for NMUs, especially those that connect to PRoW with higher access rights or quiet lanes.
- Retaining 'temporary' construction access tracks as long term multi-user routes.

As a general comment, it is understood that footbridges or underpasses will be provided to keep existing PRoW open and avoid permanent severance of the access network by the LTC (PEIR Vol.1 – Paragraph 2.12.3). When designing this new access infrastructure, it is requested that the structures are 'future proofed' to accommodate users with higher access rights (equestrians and cyclists). For example, underpass routes should have sufficient height clearance for bridleway users and bridges should include appropriate parapets for equestrians.

Considering the scale of this project and the wide range of NMUs who will be affected by the LTC, it may be beneficial to bring these stakeholders together in a working group and establish an overarching access strategy for NMUs. This would ensure there is a 'joined up' approach for delivering an action plan that would benefit all path users.

The PRoW and Access service requests further engagement with Highways England to consider these suggestions in more detail and prioritise schemes that could be delivered within the scope of the LTC project or through Designated Funds.

Summary of LRoW impacts

The LTC project could have a significant impact on the PRoW network and cause disruption to a high number of path users, but with careful planning and appropriate mitigation, it is hoped that any negative impacts can be identified early and addressed. The latest plans have acknowledged the existence of the PRoW network, identified potential impacts and considered appropriate mitigation works that may be required to retain connectivity. While these initial efforts are appreciated, the PRoW & Access service requests further engagement with Highways England to decide how PRoW will be integrated within the LTC site and consider NMU access improvements that could be delivered through the project, to enhance the legacy of the LTC.

6. Environmental impacts and how we plan to reduce them

Q6a. Do you agree or disagree with the proposed measures to reduce the impacts of the project?

Strongly agree
Agree
Neutral
Disagree
Strongly disagree
Don't know

Q6b. Please let us know the reasons for your response to Q6a and any other views you have on the environmental impacts of the Lower Thames Crossing as set out in the Preliminary Environmental Information Report, including our approach to assessing and reducing the impacts of the project.

Detailed Biodiversity Comments

KCC's Biodiversity team has reviewed the Preliminary Environmental Information Report Chapter 9 Terrestrial Biodiversity and Chapter 10 Marine Biodiversity, in addition to the survey methodologies detailed in PEIR Volume 2 Appendix F. In respect of the identification of biodiversity impacts, the approaches appear broadly acceptable, but KCC awaits the Environmental Statement in order to appraise the full details. Nevertheless, KCC Biodiversity have the following specific comments on the PEIR to make:

PEIR Chapter 9 Terrestrial Biodiversity

Methodology

We note the proposed alternative approach to surveying potential roosting features (PRF) in trees (paragraphs 9.3.5-9.3.6) and have some concerns that this will not provide sufficiently detailed information to adequately appraise the value of the woodlands for bats or to reach informed conclusions regarding likely significant effects. It is also not clear how this approach will ensure compliance with the requirements of the National Planning Statement for National Networks, as outlined in Table 9.2.

Given the scale of the project, our expectations are for ecological matters to be dealt with in an exemplary manner. We do not consider the need for "significant survey effort…which would not be delivered in a reasonable timeframe" to present adequate justification for the proposed approach.

Desk study data
Data from the Kent Habitat Survey 2012 (which includes identification of priority habitats) do not appear to have been requested from the Kent & Medway Biological Records Centre.

Existing environmental conditions

The synopsis for each habitat/species/species group includes a summary of the ecological surveys undertaken and results to date. While this does demonstrate that there is progress in the surveys, the information provided is not in enough detail to allow any real scrutiny.

To ensure clarity in reporting and aid scrutiny of the work, we would like to encourage a consistent approach to the presentation of results (and conclusions, evaluation etc) across the survey area. We also advise that the reporting commentary should avoid comparison between survey sites within the DCO (e.g. paragraph 9.4.111 "woodland areas in Kent were found to contain a more diverse range of species than Hangman's Wood in Essex") as this is not relevant to the assessment process.

Table 9.8 Locally important ecological sites and extent (ha)
Within the South of the River Thames data, the table does not include all those sites presented in Figure 9.1 – Designated Sites. Ancient woodland sites, although part of local wildlife sites in some instances, have not been listed separately.

Potential effects and mitigation measures

Table 9.28 Potential effects and mitigation measures during construction

Receptor: Thames Estuary and Marshes SPA/Ramsar site etc…

We advise that avoidance of works resulting in potential disturbance during key times of year should also be considered as potential mitigation for impacts to birds associated with the SPA/Ramsar sites and SSSIs.

Receptor: European designated sites within 20km of the Project

It is stated that mitigation for impacts of recreational users as a result of displacement could comprise improving access to the countryside or the provision of alternate green space. We advise that, while this may be appropriate for inland sites, if users are likely to be displaced from coastal areas, it would not be appropriate to provide alternate green space inland as coastal areas have a 'special draw' to users.
If the assessment shows that recreational users are displaced into the North Kent SPAs (comprising Thames Estuary and Marshes (Kent side), Medway Estuary and Marshes and The Swale), this may impact on the established North Kent Strategic

Access Management and Monitoring Scheme (SAMMS). We advise that Bird Wise (the North Kent SAMMS Board) are contacted in relation to recreational user displacement.

Receptor: Great Crabbles Wood SSSI etc…

It is stated that "potential for noise disturbance and air quality effects also – see operational effects", yet in *Table 9.29* Potential effects and mitigation measures during operation there is no mention of noise disturbance and no potential mitigation proposed as air quality assessments have not yet been carried out.

Receptor: Ancient woodland outside of designated sites

It is stated that "for potential noise and air quality effects see operational phase" yet there is no 'ancient woodland outside of designated sites' receptor in Table 9.29 Potential effects and mitigation measures during operation (though as stated above, no potential mitigation is proposed as the air quality assessments have not yet been carried out).

Consideration must also be given as to whether the construction phase could result in ancient woodland being more accessible to people.

Receptor: Bats

We advise that consideration must also be given to construction phase impacts on foraging/commuting bats, for example leading to disturbance as a result of lighting and/or loss of, or impacts to, hedgerows.

Table 9.29 Potential effects and mitigation measures during operation

Receptor: Great Crabbles Wood SSSI etc…
As stated above, no potential mitigation is suggested as the "detailed assessment of air quality effects will be carried out within the ES". There is no mention of potential noise disturbance.

There is no receptor in Table 9.29 for 'Ancient woodland outside of designated sites'. We would like to see an overarching consideration of the impacts of habitat fragmentation along the proposed route. While fragmentation impacts should be addressed in the assessments for each of the identified receptors, it would be beneficial for a holistic view to be provided, for example considering whether any areas of semi-natural habitat will become isolated, and when looking at overall net losses/gains in biodiversity along the route.

General comments

KCC awaits the Environmental Statement to provide much more detail regarding the ecological survey work, in addition to the results and assessments of impacts. KCC notes the cited plan and policy aims in respect of achieving 'net gain' in biodiversity and encourage this to be a stated aim of the project.

KCC suggests that the development of a relationship with the Kent Nature Partnership would be beneficial for advice on the delivery of meaningful net gain in biodiversity within Kent.

Furthermore, KCC would like to see an undertaking to provide all necessary mitigation and compensation as close as possible to impacted areas along the route, unless there is strong justification for not doing so, to avoid and minimise local impacts; while the project is termed 'nationally significant', the value of local impacts must not be underplayed.

PEIR Chapter 10 Marine Biodiversity

No specific surveys have been carried out in respect of the marine environment, with Chapter 10 relying on desk study information, much of which appears focussed on the north side of the Thames. KCC awaits the Environmental Statement for further details.

PEIR Volume 2 Appendix F

It is stated in F.1.79 that surveys for dormice will be carried out in "suitable habitat" but in the descriptions seems to be restricted to hedgerows and woodlands. KCC expects that areas of scrub that are connected to woodlands and hedgerows will also be considered as 'suitable habitat'.

PEIR Volume 3a: Figures

KCC has reviewed Figure 9.1 Designated Sites and advise that there is some lack of clarity in the identification of designated areas, particularly around the Shorne and Ashenbank Woods SSSI area.
Shorne Wood Country Park and Ashenbank Woodland Trust Reserve are both presented as Local Wildlife Sites, which is incorrect, and the areas marked out for these sites do not accord with those in our files. KCC advise that the site boundaries and details are rechecked.

Other points

Given the extent of the project area and the large suite of potential ecological impacts, KCC would suggest that an Ecology Working Group is established, this will ensure that relevant/key consultees are kept abreast of developments as the survey data are collated, can provide local knowledge where appropriate, and have early sight of developing mitigation and compensation strategies.

Shorne Woods Country Park

KCC would like to make the following comments in relation to the environmental impacts on Shorne Woods Country Park:

- It is understood there is the potential for noise along the Thong Lane side of the Country Park to increase, so any noise buffering to mitigate this impact would be welcomed. There is scope to create a natural sound buffer around Shorne Woods and Brummel hill Woods by planting up to the red line boundary of permanent land required for environmental mitigation shown in Map Book 2, Land Use Sheet 5. Providing an area of woodland planting would increase the woodland coverage along the edge of the SSSI and could be integrated into the existing country park, but trees would need to be native and locally sourced.
- The land along Thong Lane which has been allocated for temporary use within Land Use Sheet 3, should be utilised as additional car parking post construction. This could provide horse box parking and cyclists parking for which there is very limited provision in the area as the main Shorne Woods car park is at capacity on weekends and holidays. This area also links to the KCC funded Darnley Trail permissive route that links Shorne Woods to Jeskyns and Ashenbank and could be managed as part of the existing Country Park. This will tie in to the new proposed route adjacent to the LTC also so will be well networked for access to the wider area.
- Both during and after construction there is a risk noise pollution at Shorne Woods will be higher, in particular the Thong Lane edge and the boundary of Randall Wood and the knoll. This could affect wildlife in those areas and human enjoyment of the park. Noise mitigation through the use of the environmental bunds will be crucial so this must be fit for purpose. Due to the high number of lorry movements on these roads they will also need to be of an appropriate height to buffer the sound.
- Planting woodland from the LTC past the 4 ponds (on the Southern Valley Golf course land), shown on the General Arrangement Plan Sheet 5, would provide a natural buffer for noise. Additionally, Randall Wood is ancient woodland so this would enhance the habitat by increasing an area of woodland in immediate proximity to the scheme. This area could then be integrated into the existing 4km woodland ride network at Shorne Woods to provide habitat connectivity.
- Creating an area of woodland could also enhance access for bikes, horse, pedestrians from the A226 area which could then be integrated into a cycle path link to Medway along the Lower Higham road improving connectivity for non-car users throughout the area.
- If during construction Brewers Road bridge is removed for a period of time this will result in a loss of visitors for Shorne Woods as a large majority use the A2 as their access point to the park. The alternative routes bring visitors up narrow lanes like Pear Tree Lane or through the village of Shorne which

impacts on local traffic, and poses more of an impact during school holidays and weekends so timings of works will be crucial.

- The increase in emissions will potentially have an impacts on vulnerable species of fungi, lichens and bryophytes as areas of the park that were buffered from the road will now potentially be exposed to higher levels of air pollution. More detailed surveys on lichens and bryophytes and invertebrates associated with the veteran trees should be carried out to better understand what the impact of the new development will be.

Detailed Heritage comments

It is important that proposals for habitat creation and other environmental mitigation measures do not adversely affect important heritage assets and landscapes.
KCC's Heritage team would like to make the following preliminary comments on the PEIR:

Chapter 2 Project Design

2.15 – provision of designed environmental mitigation such as earth bunds, balancing ponds, translocation of soils, landscaping, planting etc. could have impacts on heritage, particularly on buried archaeology. The archaeological consequences of environmental mitigation need to be thoroughly considered at all stages of the scheme.

2.16 – temporary land take and measures, such as site compounds, could have impact on heritage, particularly buried archaeology. Mitigation for heritage, particularly buried archaeology, needs to be thoroughly considered for even temporary measures.

2.17 – Services and utility diversions could have impact on heritage, particularly buried archaeology. Mitigation for heritage, particularly buried archaeology, needs to be thoroughly considered for all services and utility diversion works.

2.17 – enabling works and variations to scheme groundworks could have impact on heritage, particularly buried archaeology. Mitigation for heritage, particularly buried archaeology, needs to be thoroughly considered for all enabling and variation to scheme works

2.18.2 – archaeological investigations need to take place prior to groundworks in each particular area, including for utility diversions and for enabling works.

2.18.11 – the construction and use of site compounds need to be subject to full archaeological assessment and mitigation. The proposed Highways Construction Compound South of Thames and the South Portal Compound (fig 2.2a) overly many

undated cropmarks and part of the Gravesend Airfield. Suitable archaeological mitigation is needed prior to these site compounds being established.

Chapter 5: Environmental Assessment Methodology

Detailed comments are being provided to the LTC team and KCC welcomes the direct liaison regarding the fieldwork proposed and the assessment as it progresses.

Chapter 7: Cultural Heritage

The rural nature of this scheme significantly increases the risk of encountering as yet unknown archaeology which may be of importance. There are a number of cropmarks south of St Mary's Church which indicate the presence of an extensive multi-period occupation site and post-medieval brick kilns are thought to survive in the former Shorne brickfields. We recommend that fieldwork is needed to support any desk-based assessment for the EIA to clarify the potential for significant buried archaeology along the chosen route, especially of all the cropmarks known within the location of the two site compounds south of the Thames.

In general, there is insufficient consideration of the Thames and Medway Canal, 20th century defensive lines and Gravesend Airfield, or the Milton Rifle Range; their settings, character and wider landscape context. It will be a requirement to clarify the impact of the scheme on the canal and other "larger heritage assets", including the airfield and the full historic Cobham Parkland, not just the current designated area.

There is a need for broader and more detailed consideration of impact on historic landscape from lighting. This could be a major harm factor for a variety of receptors, including setting of designated heritage assets, especially listed buildings, and the Grade II* Cobham Park. In addition, as this scheme runs through a rural area, lighting could have a wider impact on the historic character of the landscape, including the historic marshland and open field system south of the Thames. Mitigation should not just include adding more trees. There needs to be mitigation considered appropriate for open landscapes as "screening" is not necessarily going to be most appropriate and could be detrimental to the significance of some military heritage assets and historic long views from Cobham and Shorne.

Historic landscapes south of the Thames are not fully highlighted as a cultural heritage issue throughout this PEIR. There are considerations of landscape and visual impacts, covering ancient woodland etc, and the setting of Listed Buildings is raised but there is no clarity in how assessment of historic landscapes would be covered. We recommend assessment adheres to the DMRB Volume 11 and associated guidelines and to the 2013 GLVA (although there is a distinct difference between natural landscape assessment and historic landscape assessment.) In addition, the HLC for Kent is not of sufficient detail. We recommend that the assessment for historic landscapes includes a detailed HLC, as recommended by the DMRB. This is particularly needed in view of the green field and rural nature of the scheme.

We welcome the appreciation of the potential impact on marine archaeology from the bridge and immersed tunnel and the acknowledgement that there could be an impact on significant geoarchaeological deposits. We note the proposed programme of geoarchaeological assessment (PEIR chapter 7).

There is no mention of options to consider impact on Bluebell Hill from increased traffic to the M2 from the M20. We welcome this in terms of the potential reduction of impact on the historic environment but maintain that any off-line works to the A229 Bluebell Hill could have a major impact on the historic environment, especially the nationally important Medway Megaliths. The impact of increased traffic between the M20 and M2 as a direct result of the Lower Thames Crossing should be part of the assessment.

Specific comments on this section of the PEIR are as follows:

5.128 Requirement (p128) KCC notes that the ES will include the results of suitable field evaluation. I would welcome clarification of what is “suitable” field evaluation. We welcome the proposals to undertake geophysical surveying but I recommend there is a need for targeted trial trenching and/or test pitting. Non-intrusive field techniques cannot always clarify date and nature of heritage assets, especially cropmarks. As such some intrusive archaeological fieldworks may be useful.

5.129 Requirement (p128) states that the DBA and ES will provide an assessment of the value of the heritage assets, including descriptions of the nature of their significance. Assessment of the “value” of the heritage assets needs to be based on Historic England national criteria.

7.4.9 The Dairy at Cobham Hall is currently subject to a planning consent for conservation and conversion to residential and works are underway.

7.4.15 There is mention of the Roman Watling Street but there is a need to consider earlier and later use of this routeway along the ridge. There are indications from formal investigations at the A2 Cyclopark, that this route may be of prehistoric origins. There are also indications of this route being important, named post medieval routes, e.g. telegraph and poll route. We recommend the need for both assessment of archaeological data and documentary data to clarify the multi-period and diverse use of this ridgeline routeway. It is essential that documentary and cartographic assessment is thorough. Early maps from the Cobham Estate must be an essential information source.

7.5.2 It is essential that the walkover survey includes all the proposed mitigation areas as well as the main scheme. Creation of habitats and receptor site mitigation can have major implications for archaeological mitigation. As such mitigation for natural environment needs to be taken in to account throughout the heritage assessment.

7.5.3 It is not acceptable for the assessment of setting to simply focus on designated heritage assets. It is essential that the setting of all heritage assets is considered, especially in view of the range of heritage assets, from Gravesend Airfield to Historic England identified historic farmsteads. Assessment of the setting of historic assets may well merge with a suitable historic landscape assessment.

Table 7.6 Effects and mitigation of key heritage assets south of the River Thames

Receptor: Non-designated heritage assets within the Development Boundary: Potential mitigation south of the Thames will need to be covered by WSIs agreed with the County Archaeologist.

Receptor: Cobham Hall registered park and garden – there needs to be consideration of impact beyond the existing northern edge of asset. It is believed Cobham Park extended north of A2 routeway and remains directly associated with the designated parkland, such as earlier park pales or access points, might require mitigation equivalent to its significance.

Receptor: Cobham Hall including Temple, Engine House, Aviary, The Dairy, The Mausoleum, The Mount Bowl Barrow, Romano-British villa and the 19th Century Reservoir are an extremely varied collection of heritage assets with different attributes and needs. Mitigation for these heritage assets should not be lumped together. Some of the historic buildings are at a distance and may just require mitigation for visual impact but the Romano British villa is very close to the scheme. There is high potential for associated archaeological remains which could be considered to be of equivalent importance. As such KCC recommends that the heritage assets within Cobham Hall are dealt with separately.

Receptor: Church of St Mary Chalk – the assessment needs to include impact from increased noise, vibration and lighting during construction and operation. Consideration of visual screening only is not sufficient. This heritage asset is so close to major works including the tunnel entrance, there needs to be a comprehensive assessment of all possible short term and long term impacts.

Receptor: Tilbury Fort, Gravesend Blockhouse New Tavern Fort - assessment of these designated assets needs to thoroughly consider their function and especially the need for their visual relationships. Sight lines are a key factor in the significance of these assets and “visual screening” is likely to be more harmful.

Receptor: Coalhouse Fort Battery – again assessment needs to thoroughly consider function and especially the need for visual relationships. Sight lines are a key factor in the significance of these military assets and “visual screening” is likely to be more harmful.

Receptor: Cliffe Fort: assessment needs to thoroughly consider function and especially the need for visual relationships. Sight lines are a key factor in the significance of these military assets and “visual screening” is likely to be more harmful.

Other heritage sites requiring greater consideration:

St Thomas’ Well – Cobham Park – conserved as part of HS1 works but may now be impacted by new scheme. Need appropriate details of mitigation for this heritage asset.

Chapter 7 baseline heritage assessment does not mention the Thames and Medway Canal, 20th century defensive lines or the Milton Rifle Range in sufficient detail. The immersed tunnel may well have an impact on the Thames and Medway Canal and Milton Rifle Range although the details of the impact are not clear at this stage.

In addition, there is no specific mention of historic landscapes assessment for the land south of the Thames in Kent. As this scheme runs through an open landscape there could be major impacts from built development. The landscape approaching the river is rich and distinctive with multi-period sites visible or close to the surface of green fields. This could potentially be highlighted as being of high sensitivity. We recommend the guidance in DMRB Volume 11 on historic landscapes is adhered to. In particular there should be consideration of cumulative impacts and post-operational or long term impacts on this open space east of Gravesend and west of Rochester.

Kent Downs Area of Outstanding Natural Beauty (AONB)

KCC notes the concerns of the Kent Downs AONB on the impacts that would arise as a result of the scheme, including those associated with vegetation clearance, landscape severance and loss of ancient woodland. Highways England should consider an arrangement similar to what it has with National Parks England, which has seen the creation of a ‘National Agreement Group’, which meets every six months to consider RIS schemes and their potential impact on National Parks. This group helps to inform the scheme design as all schemes impacting National Parks go through a design review. This approach is intended to reduce delays and ensure that issues and concerns are considered at the earliest opportunity. A similar approach to the development of the LTC, with its impact on the AONB and other protected landscapes, could help to ensure that the scheme minimises its impact and provides suitable mitigation.

Drainage

Kent County Council as the Lead Local Flood Authority (for the area to the south of the River Thames) have the following comments on drainage:

- Page 31 of the submitted Preliminary environmental information summary states that a Flood Risk Assessment (FRA), a hydrogeological risk assessment and water framework directive will be prepared and furthermore page 27 of the Preliminary Environmental Information Report states that an FRA will be submitted as part of the DCO submission.
- KCC would expect these, particularly the FRA, to address the potential effects of the proposed development on the surface water environment (including surface water drainage, pollution prevention and flood risk).
- Whilst KCC have no preference as to whether these are submitted as a package or are submitted as standalone documents, the County Council would encourage the Highways England to contact us at their earliest convenience to discuss the surface water management at this site and any associated implications for Kent County Council (as Lead local Flood Authority). It must be ensured the drainage of the site is considered from the outset (at the masterplanning stage), and that sufficient room is allocated for appropriate drainage features:
  Drainage Features

- KCC would also advise that that part of the site falls within the jurisdiction of the North Kent Marshes Internal Drainage Board; any works whatsoever that may have the potential to affect any adjacent watercourse (or the network's ability to convey water) will require their formal prior written permission. They can be contacted at Medway Council 2018, Gun Wharf, Dock Road, Chatham, Kent, ME4 4TR.

Resilience comments

In regard to resilience, KCC would like to make the following comments:

- Design and long-term maintenance of surface and ground water drainage infra-structure should mitigate effects of diffuse pollution run-off and infiltration from hydro-carbons, road salt, heavy metals, shed or leaking hazardous cargos, firefighting foam and water and de-icing chemicals, and utilising technology such as high capacity interceptors and wet vegetated balancing ponds, basins or reed-beds (balancing pond design should be naturalistic to maximise 'edge habitat' thus optimising contact between contaminated contained water and marginal and emergent vegetation to optimise phytoremediation).
- A long-term maintenance regime for all interceptors and wet vegetated balancing ponds, basins or reed-beds must be agreed and resourced to ensure optimum efficiency and preclude long-term build-up of contaminants such as hydro-carbons, heavy metals and salts, which will have the potential to pollute adjacent wetlands bearing UK and international environmental protection designations.
- All sustainable urban drainage solutions utilised should employ wet vegetated balancing ponds or swales to optimise responsiveness to intense precipitation events through minimising local surface water flooding risk and mitigate

pollution ingress into groundwater (highway run-off presents a significant off-site pollution risk because of incremental loading of hydro-carbons, heavy metals and road salt contamination).

- Technology utilised in mechanical de-watering of the tunnel bores, and potentially the cutting, should be resilient and robust - with the potential for utilising any resultant water resource explored with local water companies (Kent being a water-stressed county), alternatively creation of new compensatory wetland habitat re-creation using non-potable supply should be seriously considered.
- The precise locations for the Kent portals must be sufficiently distant from the tidal flood plain of the River Thames to sustainably accommodate worst-case sea level rise resulting from a combination of glacial isostatic adjustment and the latest climate change impacts projections.
- The extent of planting and natural regeneration (which should be prioritised over planting for biosecurity and biodiversity reasons) of roadside vegetation should be of a scale that will have a meaningful, positive impact upon local air quality, which is already exceeding UK and EU limits across the study area, as well as offsetting future emissions including those caused by the construction process and the operational phase, phytoremediation of run-off, flood attenuation and water infiltration (woodland is the natural historic landcover along the route of the proposed new road and more biodiverse than prevailing more recent agricultural land uses).
- Locally appropriate native tree and shrub planting specifications and moulding of the landform (floodplain woodland) in and around the relatively exposed proposed access roads to the tunnels should seek to naturally mitigate against severe weather risks such as high winds, intensive rain or snow fall, and high temperatures.
- All planting and landscaping should utilise a diverse palette of local provenance native shrub and tree species appropriate to this exposed Kent Downs AONB and estuarial location and the underlying substrates to maximise resilience of local biodiversity, and reduce bio-security risk and vulnerability to plant diseases (i.e. the route is within the current range of tree pathogens including Ash Dieback (Hymenoscyphus fraxineus*)* and Phytophthora ramorum, and is located adjacent to semi-natural ancient woodland), natural regeneration of vegetation, with its lower bio-security risks, is clearly favoured over introduced new planting and seeding.
- The extent of woodland recreation illustrated should be significantly expanded to enable more effective mitigation of negative landscape and environmental impacts arising from the scheme and to optimise environmental services delivered (n.b. wet woodland types can maximise delivery of environmental services and is appropriate to much of the proposed route).

7. Development boundary

Q7a. Do you support or oppose the proposed area of land we require to build the Lower Thames Crossing?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q7b. Please let us know the reasons for your response to Q7a and any other views you have on the land we require to build the Lower Thames Crossing.

The development boundary around the section of the A2 that is required for widening from M2 Junction 1 to the Lower Thames Crossing (LTC) junction with the A2 requires temporary use of land north and south of the existing A2 boundary, and land required for the diversion of utilities south of the existing A2, that encroaches the boundary of Shorne Woods County Park, Brewers Wood, Ashenbank Wood and other areas of ancient woodland adjacent to the A2. The temporary use of this land for the construction of the road widening or for the diversion of utilities must not involve the destruction of any woodland as this area is protected as a Site of Special Scientific Interest (SSSI) and is within the Kent Downs Area of Outstanding Natural Beauty (AONB). The loss of any woodland in this area, temporarily or otherwise, is unacceptable to Kent County Council (KCC). The widening of the A2 must remain within the existing highway boundary. The permanent acquisition of land required for the widening also appears to include requisition of the footway/cycleway parallel to the A2. The re-configuration of the A2 for the widening must also accommodate a footway/cycleway to allow non-motorised users safe passage along this route.

The development boundary must minimise the number of buildings affected, both partially, and those requiring full demolition. This applies to both residential and business property/land as there are several long-established businesses which will either be forced to relocate or will likely be put out of business if the nature of the businesses is location specific. This effect is likely to apply even if premises are only affected temporarily during the construction phase as businesses may no longer be viable with years of disruption. Where impact on property is unavoidable, a generous compensation package for property and land owners should be offered. As stated in KCC's response to the previous consultation in 2016, it is essential that affected property owners, including those outside of the development boundary who have already been blighted by the proposal, are fully compensated for the loss of property value and inability to now sell if they need or want to move. This proposal has caused considerable distress in the local community and there needs to be an open dialogue with those affected, both within the development boundary and those in close proximity to it.

The development boundary around the LTC/A2 junction requires a lot of land take to the south of the A2 for the diversion of utilities. Around the existing A2 junction ('Gravesend East') a lot of land for temporary use is required which includes local highways. As Local Highway Authority, KCC expects these roads to be made suitable by Highways England for its construction traffic to access the construction site and the main construction compound accessed from Valley Drive. This construction compound is on the site of the existing HGV park and surrounding land. Given the severe shortage of lorry parking facilities in this area, likely to worsen once the LTC is open, an ideal legacy benefit would be the provision of an enhanced lorry park at this, or a more suitable location in the vicinity. A much larger construction compound to the north-east of the proposed LTC junction for temporary use extends as far as the village of Thong. This needs to be reduced to minimise the construction impacts on Thong. Where this is not possible, appropriate screening must be put in place to reduce visual, noise and dust pollution.

Land around Thong, and also the Riverview Park area of Gravesend, to be used for environmental mitigation is welcomed provided that it is appropriate to the character of the landscape. With this permanent acquisition of land for environmental mitigation, also comes with loss of the Southern Valley Golf club, and while this is unavoidable for the route and environmental mitigation around the new road is welcomed, the loss of leisure amenities should also be compensated with new facilities provided nearby. Likewise, where community assets/facilities are affected then suitable compensation should be arranged to offset the impact.

Temporary use of land and land for the diversion of utilities also impacts on Claylane Ancient Wood. There needs to be consideration of whether other areas could be used for this 'temporary use' instead, to minimise the loss of ancient woodland. If this is unavoidable, habitat compensation must be provided.

The development boundary around the tunnel portal extends across a huge area, some of which is for utilities diversions, but a significant area is for temporary use as a construction compound. It is essential that the land required for construction is minimised to reduce the impact on St Mary's Church and other properties along the A226 in Chalk. Where this is not possible, appropriate screening must be put in place to reduce visual, noise and dust pollution.

Overall, land included within the development line boundary for temporary use must be returned to its original use after construction or to an enhanced state so long as it is in keeping with the character of the landscape. There is an opportunity for legacy benefits in terms of improved Public Rights of Way (PRoW) and 'green corridors' to connect urban Gravesend and the surrounding villages to Shorne Woods County Park, other woodlands and green space, thus enhancing the amenity value of the area – see the response to question 5 of this consultation. KCC is happy to work with Highways England and Gravesham Borough Council to plan lasting legacy benefits for the community.

8. Proposed rest and service area, and maintenance depot

Q8a. Do you support or oppose our proposals for a rest and service area in this location?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q8b. Do you support of oppose our proposals for the maintenance depot in this location?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q8c. Please let us know the reasons for your responses to Q8a and Q8b, and any other views you have on our proposals for a rest and service area, and for the maintenance depot.

Kent County Council (KCC) fully supports the inclusion of a rest and service area as part of the Lower Thames Crossing (LTC). HGV drivers are required by law to take both daily driving breaks and overnight rests and the proposed facilities would allow them to take these mandated breaks whilst providing adequate welfare facilities. Likewise, it is recommended that all other drivers take regular rest breaks to reduce fatigue and therefore reduce the likelihood of an incident or collision.

Looking specifically at lorry facilities, there is a severe shortfall of official lorry parking spaces across the country with an even greater need in Essex, Thurrock and Kent. The lack of adequate lorry parking facilities leads to inappropriate and in some cases dangerous parking. KCC has undertaken overnight parking surveys in 2017 and 2018 within Kent which have found over 900 HGVs parked on-highway and in inappropriate locations each night. The negative impacts of this parking are lorry related crime/thefts, road safety, damage to roads, kerbs and verges, environmental health issues (including human waste), litter and noise disturbances, especially when close to residential areas.

Additional lorry parking capacity is desperately needed in this locality both north and south of the river and is not currently being delivered to the required level by the private sector. The LTC scheme provides a great opportunity to bring forward the

provision of overnight lorry parking for long-distance drivers as part of a larger service area that is self-contained and located away from residential areas.

The DfT quantified the need for overnight lorry parking nationally by commissioning AECOM in 2018 to undertake the 'National Survey of Lorry Parking'. This report concluded that the South East region had the greatest demand for overnight parking spaces. Further to this, KCC has undertaken work to quantify the demand for overnight lorry parking in the county. On the M2/A2 corridor, this work found that there is a current excess demand for 400 spaces, and a further 180 spaces along the M20/A20 corridor.

KCC is therefore disappointed with the proposal for only 80 HGV spaces within the facility. This new route will be a strategic corridor linking the major Channel Ports of Dover, Eurotunnel, Ramsgate and Sheerness to the Midlands and North and will therefore carry substantial volumes of HGVs. Demand for HGV parking in this location will substantially exceed the proposed supply, especially with the closure of the Cobham (A2) services (already a hotspot for overnight lorry parking) as a result of the LTC. This will likely lead to HGVs parking on the slip roads and hard shoulders to the service area. The provision of at least 300 HGV spaces would be needed to match the current demand in the area and would make the lorry parking element of the site extremely viable with a positive financial return, making it attractive to potential private sector lorry park operators.

Government has acknowledged the need for overnight parking through their change to the National Planning Policy Framework (NPPF). Paragraph 107 of the NPPF states "Planning policies and decisions should recognise the importance of providing adequate overnight lorry parking facilities, taking into account any local shortages, to reduce the risk of parking in locations that lack proper facilities or could cause a nuisance." KCC is able to share the research conducted into excess demand for overnight lorry parking spaces with Highways England in order to support the case for an expanded facility as part of the LTC scheme.

Given the ethos of the scheme is to provide a road fit for the future, KCC would expect a high proportion of the car parking spaces to have electric charging infrastructure in place from opening day. The electrical infrastructure for charging points should also be passively included more widely in the car park ready to be connected as the uptake of electric vehicles increases.

KCC strongly supports the proposal for the maintenance depot for the tunnel at this location north of the river.

9. Traffic

Q9a. Do you agree or disagree with the view that the Lower Thames Crossing would improve traffic conditions on the surrounding road network?

Strongly agree
Agree
Neutral
Disagree
Strongly disagree
Don't know

Q9b. Please let us know the reasons for your response to Q9a and any other views you have on the Lower Thames Crossing's impact on traffic.

The Lower Thames Crossing (LTC) will induce traffic for the new route, as well as for the Dartford Crossing as capacity is released. Whilst we agree that the Lower Thames Crossing is much-needed strategic infrastructure (improving the route via the M2 to the Midlands and North as well as providing resilience for the Dartford Crossing) the project's modelling nevertheless shows that there will be impacts for the Local Road Network. These impacts must be identified now and mitigation put in place to prevent them from occurring, such as improved signage, any necessary traffic restrictions, in- vehicle technology, and junction upgrades.

KCC commissioned consultants Peter Brett Associates (PBA) to review the traffic modelling output from the LTC scheme development. This has identified some areas of concern.

General comments on the modelling

The model uses an AM peak hour of 0700 – 0800 and a PM peak hour of 1700 – 1800 based on the analysis of DART charge data. Although this allows the impact on the Dartford Crossing to be reviewed and the Strategic Road Network (SRN) within the wider area, it does not correspond with the peak hours on the Local Road Network.

The model does not have enough validation points on the Local Road Network, which makes it unsuitable to reasonably assess impacts on local roads, especially Dartford and Gravesend urban areas. Further, no validation data has been included for the Medway towns, the A228 corridor through Snodland, Halling and Cuxton and north of the M2, or the A229 and A249 corridors between the M20 and M2.

Further validation with traffic counts on the Local Road Network must be undertaken and a micro-simulation model should be developed that is detailed enough to assess the impacts of the LTC on the local road network and the key junctions along the A2/M2, including M2 Junction 3 (for the A229).

Committed and planned developments need to be accounted for in the future model, and this must be confirmed with the Local Planning Authorities. The high growth scenario should include all planned development. Some of these in Gravesham District are:

- Committed Developments:
  - Coldharbour Road (400 residential units) – near junction of Coldharbour Road/Wrotham Road Roundabout
  - Heritage Quarter – 141 residential units + 50 bed hotel + restaurants etc – on existing car parks off Bank Street, Gravesend
  - Clifton Slipways (133 residential units) – off West Street, Gravesend
  - Former police station (99 flats, 816sqm commercial) – off Windmill Place, Gravesend
- There are other developments in the vicinity of Tollgate A2 junction which are at pre-app stage (and cannot be identified at this stage due to confidentiality) but would have an impact on that junction. The LTC could have an impact on queues occurring on the A2 slip roads in both directions (either better or worse).
- Possible development of Tollgate petrol filling station – has Member's approval but subject to Judicial Review. However, unlikely to increase traffic on A2 other than traffic diverting off/on to refuel. Related to this, there is a current lack of convenient petrol filling stations on A2.
- Transport Quarter improvements to the station area for improved interchange for buses/trains.

Other areas of concern with development quanta include the modelling not showing any additional housing growth in Dartford post-2041 and the only sites still delivering any housing 10 years after 2031 are Dartford Town Centre and Northern Gateway at 700 units. The rate of delivery in the Eastern Quarry should also be checked with the Ebbsfleet Development Corporation as 2,650 seems low.

Further, there is a pending review of the Gravesham Local Plan due to commence in Autumn 2019. This has an assessed need for an additional 8,000 houses in the district but the location of these is yet to be decided. This should be discussed with Gravesham Borough Council, as well as potential underestimate of housing delivery for the 2041 design year. In Medway, there could be major development at Hoo and this should be taken account of in discussion with Medway Council. Dartford Borough Council is also in the process of updating its Local Plan. Based on current needs assessment, it appears that the LTC model is underestimating housing delivery for the 2041 design year.

We appreciate that accurately inputting housing delivery into the model is a moving target in many respects given potential changes to the methodology to assess needs and reviews of Local Plans across the area. However, Highways England must continue to liaise with the Local Planning Authorities to confirm that the housing

delivery assumptions used in the model correspond with the latest information available. In Kent, this includes the Local Plan reviews outlined in the previous paragraph, as well as Maidstone, Sevenoaks, and Tonbridge & Malling.

Peter's Bridge, which opened in 2017, needs to be in the base network for the future year model horizons particularly as both A228 and A229 are projected to carry extra traffic and the bridge could make these routes even more attractive.

The proposal for the London Resort Theme Park on the Swanscombe Peninsula is not allowed for within the transport modelling. Whilst we note that a Development Consent Order application is yet to be submitted, we would expect some sensitivity analysis around it.

M25 and M20 corridors

The M25 corridor is forecast to see a reduction in two-way traffic flows in 2026 and 2041 as well as reduction in the proportion of HGVs compared with a 'no LTC' scenario. Likewise, the M26 corridor experiences reduced two-way traffic flows and HGV flows in both years. The scale of reduction on the M20 corridor between junctions 1 and 6 is most pronounced in 2041, with reductions of up to 46.5% on the Junction 2 to Junction 3 link, as well as a greatly reduced proportion of HGV traffic between junctions 1 and 6. This is due to traffic currently using the existing Dartford Crossing via the M20 or using the M26 to travel westbound on the M25 via Heathrow to go north of London, diverting away from the M20, M26 and M25 to the LTC. Between junctions 6 and 13, the M20 is still forecast to see a reduction in two-way traffic and also HGVs, but much less pronounced than on the links to the west of Junction 6.

M2 and A2 corridors

The M2, however, sees the converse to the M25 and M20. Being wholly east of the new crossing, the flows on the M2 will increase, particularly between junctions 1 and 3 and for HGV traffic. The results are more mixed on the A2 corridor. The A2 west of the LTC will see a reduction in two-way traffic flows as traffic currently using the Dartford Crossing diverts to the LTC. The section between the M2 Junction 1 and M2 Junction 7 (Brenley Corner) will see a combination of increases and reductions in flow, and the A2 east of M2 Junction 7 (Brenley Corner) will see an increase. This is to be expected given the opening up of the M2/A2 corridor as a new route for strategic traffic heading from the Midlands/North to the Port of Dover.

A20 corridor

The impact of the LTC on the A20 corridor is shown to be a combination of modest increases and decreases in two-way traffic flow along its length. In absolute terms, the change in two-way traffic flows are small. Generally, there is forecast to be a

decrease in HGV flows in both 2026 and 2041, however, again this reduction is modest.

A227 corridor

In terms of general two-way traffic flows, the A227 is expected to experience a combination of increases and decreases during both peak hours in 2026 and 2041. However, HGV flows on the A227 corridor show a substantial percentage increase in 2026, particularly on Wrotham Road (north of New House Lane). However, the absolute difference in HGVs is modest. By 2041 the Wrotham Road section shows no significant difference in HGV traffic between the 'with' and 'without' LTC cases. However, there is an evident increase in the morning peak hour between the A2 and A20 corridors. Although all links are forecast to work within their capacity in all scenarios, KCC is concerned about the increase in traffic (particularly HGV traffic) that will need to be managed to ensure that strategic traffic uses only the Strategic Road Network and not this unsuitable local rural road.

There is serious concern that traffic will use the A227 through Meopham as an alternative route to get to and from the LTC, especially when transferring from the M20 and/or M25 corridors. This road, together with connecting roads through Sole Street and other villages, is completely unsuitable for HGVs and strategic traffic, therefore traffic needs to be actively discouraged from using the A227.

A228 corridor

The introduction of the LTC is forecast to increase two-way traffic flows between the M2 and M20 corridors during both peak hours in both 2026 and 2041 compared with no LTC, in the region of 5 to 15%. The impact of increased HGV flows is most significant on this corridor with increases during both peak hours of over 100% (in some cases over 250%) in 2026, notably on the section of route between the M2 and M20 corridors. In absolute terms, this represents increases of over 150 HGVs per peak hour at Cuxton and Halling in both 2026 and 2041. This increase in traffic flow and number of HGVs has the effect of increasing the volume to capacity ratio.

With the proposed development around Paddock Wood and Five Oak Green there will be a significant impact along the A228 between Peters Bridge to the north and the A228/A26/Seven Mile Lane junction at Mereworth to the south. There are junctions and pinch points along this stretch that already have capacity issues and the increase in traffic flow as a result of the LTC in the peak hours is likely to exacerbate queuing and capacity problems.

KCC is concerned that the model has not been validated on the A228 route and that the peak periods modelled do not necessarily correspond to the Local Road Network peaks. Therefore, the resulting forecasts may not be an accurate representation of likely future flows with the LTC open. The A228 is unsuitable as a primary

connection between the M20 and M2 and steps should be taken to discourage strategic traffic from using this route.

A229 corridor

In 2026, the introduction of the LTC is forecast to increase traffic flows on this corridor during both peak hours, particularly between Maidstone and the M2. In 2041, the LTC is forecast to generally increase traffic flows on the A229 again between Maidstone and the M2 in the AM peak but a combination of increases and decreases in the PM peak. As would be expected, because the A229 is the most direct link between the M20 and M2, HGV flows are substantially increased in the AM and PM peaks.

On Blue Bell Hill this is an increase of 118 HGVs in the AM peak and 139 in the PM peak in 2026, growing to 179 in the AM peak in 2041. This increase in traffic places more pressure on the capacity of the A229 at Blue Bell Hill. However, the data hides the problems with the junctions at either end (M20 Junction 6 and M2 Junction 3) that cause delays and blockages on the network, causing queues and congestion. These junctions must be included in a future micro-simulation model so that the full extent of the impact of the LTC on the wider SRN and Local Road Network can be assessed.

As with the A228, the model has also not been validated on the A229 and the same point about the peak periods modelled not corresponding with the peak on the Local Road Network also applies. KCC is concerned that the traffic volumes on this route are underestimated and that as the shortest and most direct connection between the M2 and M20 this route (especially the Blue Bell Hill section) will experience significant increases in delay and congestion. Whilst we understand that wider network improvements (including the ‘C variant’ from the original LTC proposals) are not part of this scheme, we would expect improvements to M2 Junction 3 and M20 Junction 6, and/or alternatives to the A229 to connect the M2 and M20 and keep traffic on the SRN, to be progressed by Highways England through the Roads Investment Strategy (RIS) as a priority.

A249 corridor

As with the A229 corridor, being a key route between the two motorway corridors means that two-way traffic flows are expected to increase on the A249 in both peaks in both 2026 and 2041. However, HGV flows are expected to generally decrease on the A249, albeit in very small absolute numbers (up to 3 HGVs in the AM peak and 6 in the PM peak by 2041). This is surprising and suggests that HGVs are either re-routing completely to the M2/A2 corridor further east or using the A229 and A228 as shorter routes between the motorways.

Local traffic impacts – Dartford and Gravesend

Within Dartford and Gravesend, there is expected to be a combination of increases and decreases in traffic flows – both overall traffic and HGVs. However, the local links reviewed are predicted to operate within capacity. Nevertheless, based on local knowledge, KCC has concerns over the potential impact in terms of generating extra traffic and creating 'rat runs' on local roads, particularly in the vicinity of the A2 junction (for example, Lion Roundabout, town centre ring road, etc) and further micro-simulation work is needed to be clearer on this to reduce any negative impacts on local residents.

KCC has particular concerns regarding the impact of the scheme on narrow local roads such as Thong Lane, Pear Tree Lane/The Ridgeway/Brewers Road, Henhurst Road and Valley Drive which all have the potential to become 'rat-runs', especially during times of disruption. KCC is keen to work in close partnership with Highways England to ensure the design of the scheme discourages rat running where possible and eliminates any adverse impacts on the local road network.

Future engagement

KCC will continue to work with Highways England post-consultation and throughout the scheme development to ensure that significant impacts on the Local Road Network are avoided and suitable mitigation can be put in place. We will also continue to make the case to Highways England and the Department for Transport (DfT) for the wider improvements needed on the Strategic Road Network as a result of the changes to traffic flows once the LTC is opened – see response to question 13 of this consultation. These should be addressed as a priority in the RIS programme.

10. Charges for using the crossing

Please give us your views on our proposed approach to charging users of the crossing.

The tolling at both crossings must be integrated to provide the optimal efficiency and traffic management. Joint management of the tolls at both crossings will also help to achieve KCC's aim of bifurcation of port traffic, so that traffic using Dover follows the M2/A2/LTC corridor and that for the Channel Tunnel uses the M20/M25/Dartford corridor. Overall project aims must also influence the charging regime. For example, to encourage local economic benefits derived from better connections north and south of the river (such as job creation) then there could be a residents' discount scheme so that a high toll amount does not prevent people seeking job opportunities.

There will also need to be some flexibility as the traffic volumes using the LTC increase. For example, in opening year it may not be necessary for peak charges (which this may increase pressure on Dartford if there is not a comparative scheme in operation there) but it might be needed after a few years when forecast traffic volumes are realised.

We understand that financing options are still being reviewed. However, if private financing is sought (taking into account the recent withdrawal of Treasury support for Private Finance Initiatives (PFI)) then the charging regime will be intrinsically linked to the financing. Previous KCC research has found a significant interest in financing the LTC, which sought views from international banks, construction parties, fund managers and pension investors. The research found that the tolls will allow the project to pay for itself (i.e. without public subsidy) but that there needs to be a trade-off between toll level and the length of the concession. It also found that the most desirable arrangement would be for any concession to include the toll revenue from the Dartford Crossing. Therefore, the scope of the charging regime must include review of the Dartford charges as well.

11. Building the Lower Thames Crossing

Q11a. Do you support or oppose our initial plans for how to build the Lower Thames Crossing?

Strongly support
Support
Neutral
Oppose
Strongly oppose
Don't know

Q11b. Please let us know the reasons for your response to Q11a and any other views you have on our initial plans on how to build the Lower Thames Crossing.

The construction phase of Lower Thames Crossing (LTC) is scheduled to take seven years to complete, therefore communication with both Kent County Council (KCC) and local communities is extremely important both before and during the construction, especially around traffic management, noise, vibration and the siting of construction compounds. Set out below is KCC's comments on the construction of the Lower Thames Crossing.

Traffic Management

A full construction management traffic plan will have to be submitted before the construction of the scheme can commence. This construction management plan will outline the daily volume of HGVs to and from the site and will establish suitable routing for these HGVs across the Local Highway Network. This document will include any construction accesses which will require a Section 278 Agreement as part of the Highways Act 1980. Any road closures, temporary diversions, traffic lights or lane restrictions on the local road network will have to be approved by KCC. Further input would also be required from KCC by the relevant teams, including Operations, Drainage, Street Lighting and Intelligent Transport Systems. Therefore, close partnership working is needed both in advance of and during construction.

Road closures will also impact on local leisure and tourist sites, as well as businesses. These businesses and organisations must be kept informed where temporary disruption will be experienced. For example, Shorne Woods Country Park will need to ensure their visitors are aware of the dates the Brewers Road bridge is being replaced so that alternative routes can be used.

KCC welcomes Highways England's recommendation that sites where possible are accessed directly off the Strategic Road Network. Where this is not possible, an appropriate local road could be sought or alternatively a temporary haul road could be created. KCC require that any impact of construction traffic on the Local Road Network is kept to a minimum.

The consultation documentation forecasts an average of 5,800 HGV movements a month in Kent within Construction Areas A and B south. This high volume of HGV traffic will have to be modelled on the network in order to determine adequate mitigation measures. KCC requests that this modelling is shared with the Authority before construction starts. This will allow time for changes to traffic signal timings or other measures that could reduce the impact on the network.

Whilst the majority of excavated materials will be transported by road, there is an opportunity for river-based transport to be used where possible to reduce the number of construction movements made by road. KCC is pleased that Highways England are looking at both river and road transport for excavated materials and those required for construction.

The Kent Corridor Coordination Group

The Kent Corridor Coordination Group has been set up by Highways England to improve the operation and performance of the M2/A2/M20. It seeks to coordinate all the improvement works that are going on along the two corridors to cause the least disruption and inconvenience to road users. The group is essential as major schemes along the corridors are coming forward around the same time including Operation Brock works, M20 smart motorway J3-5, M20 Junction 10A works, M2 J5 improvements scheme, A2 Bean and Ebbsfleet as well as routine maintenance and works on the local road network. KCC would like the Lower Thames Crossing to be considered as part of this group to coordinate construction works along the A2 and make sure that there is no overlap between the A2 Bean and Ebbsfleet works and the A2/Lower Thames Crossing tie-in. Coordinating these works on the A2 will help to minimise the delays and disruption to Kent residents.

Working Hours

The general core working hours set out for the construction of the scheme are 08.00 – 18.00 Monday to Friday and 08.00 – 16.00 on Saturdays. Recognising the need for these to be agreed locally, these suggested core working hours are welcomed to limit the noise impact on local residents. Out of hours working will be required on occasion, particularly when working on existing highway, but this should be sympathetic to residents and communicated to those affected well in advance.

Noise and vibration

KCC welcomes the monitoring of noise on sensitive receptors during the construction process. These impacts need to be fully monitored and where noise levels exceed the agreed thresholds, suitable mitigation measures will have to be introduced to limit noise and vibration and bring them back to within acceptable levels. The location of noise monitors will be agreed through the planning process and with the Environmental Health Officers for the area.

Materials Handling

KCC would like to see any waste materials from the construction of the Lower Thames Crossing recycled to provide noise bunding for properties close to the proposed route of the crossing or elsewhere on the Strategic Road Network. This excavated spoil can therefore act as noise restraint and reduce the impact on properties in the area.

Minerals

There are known mineral deposits (Sub-Alluvial River Terrace Deposits and River Terrace Deposits) that are threatened with sterilisation by the proposed development. These should be identified and, in accordance with the NPPF's emphasis on the use of sustainable minerals (paragraph 142), prior extraction should be fully investigated for the chosen route.

Utility Works

KCC Streetworks Team has highlighted the Lower Thames Crossing works as a risk to utility companies and will continue to work towards assisting utility companies to deliver any works in and around the affected areas of the Lower Thames Crossing prior to construction commencing. Any works during the construction phases will be reduced to new connections and emergencies only.

Surface Water

The Assessment identifies major strategic issues for surface water in relation to location of the route and potential impacts in relation to construction. The Assessment, however, does not clearly state the impacts in relation to increased surface water flow from construction of the project itself, whether in relation to water quantity or quality. It would be expected that impacts relating to construction and operation will be mitigated through compliance with regulation for surface water management. Wheel washing facilities will have to be provided, with sweepers operating in the area to make sure mud does not cause a risk to motorists.

Public Rights of Way Temporary Closures

It is understood that Public Rights of Way (PRoW) will be affected during the construction phase of the LTC. The applicant has suggested that a detailed programme of mitigation measures (e.g. temporary diversions) will be provided to minimise disruption along the PRoW. While this programme of mitigation measures is welcomed, it is requested that Highways England continue to discuss these plans with the KCC PRoW & Access Service at the earliest stages of the planning process, to ensure that disruption for users is kept to a minimum.

The applicant is reminded that efforts should be made to minimise closures and retain popular routes during the project. Where temporary closures are required, convenient diversion routes should be provided to reduce disruption to path users. Robust information boards explaining temporary access restrictions should be considered for paths that will be closed for long periods.

Shorne Woods Country Park

Any road closures for construction that affect access to the park will greatly reduce visitor numbers. Shorne Woods is the county's most popular park and a large proportion of its financial sustainability comes from car park income, particularly in school holidays and weekends. Therefore, the timing of any closures must take that into consideration.

If the new habitat areas, with particular reference to the ancient woodland creation along the boundary of Randall Wood, could be put in place before the main construction begins this would help reduce the visual and noise impact in that area of the park.

With 4,700 extra HGV journeys per month during construction the noise impact will be immediate from the A2 boundary. If possible, the environmental bunds/walls should be put in place at the start of construction as opposed to at the end because this will help to mitigate the impacts and may also reduce any dust drifting into the park.

As above, the impact of the closure of Brewers Road bridge for any period would be significant for the park and have a large impact on visitor numbers as well as increasing traffic along local country lanes and through Shorne village. At a consultation meeting with the LTC team, KCC were advised that the bridge would stay open but the consultation document highlights it as a high impact closure during bridge replacement. Some clarity on the construction process would be useful, including how long the bridge would be inaccessible and at what time of year.

Skills and Legacy

KCC urges that serious consideration is given to how the construction of the scheme can provide employment and training opportunities for local residents. This includes utilising the local labour supply throughout the construction phase and working with colleges and universities in the area around the route to provide appropriate apprenticeship and training schemes. This work must commence in advance of construction to ensure that the resources are available in time.

12. Utilities and Pylons

Please let us know any views you have on the proposed changes to utilities infrastructure.

Kent County Council (KCC) would encourage Highways England to continue to work in close partnership with National Grid and other utility companies to ensure the appropriate relocation of high voltage electricity overhead lines including pylons, gas pipelines and other utilities.

Furthermore, KCC's Streetworks team will continue to work towards assisting utility companies to deliver any works in and around the affected boundary of the Lower Thames Crossing prior to construction commencing. Any works during the construction phases will be reduced to new connections and emergencies only. In order to accommodate the utility works required as part of the Lower Thames Crossing scheme, KCC will look to enforce an embargo on sections of carriageway that will be affected by additional works vehicles or potential displacement of vehicles with increased works in and around the A2 during the construction phase; this will include the A226 and A227.

13. Other comments

We would like to know what is important to you. Please let us know if you have any other comments about the Lower Thames Crossing.

Wider network improvements

The Lower Thames Crossing (LTC) cannot be looked at in isolation. It is a major new route that will change traffic flows across Kent (as well as north of the river) and will necessitate network improvements to support the LTC and fully realise its benefits. One of the scheme objectives is "to improve the resilience of the Thames crossings and the major road network" and to achieve this, upgrades to the surrounding road network, both the strategic and local, are essential.

Bifurcation of traffic between the M20/A20 and M2/A2 has been a long-standing KCC strategic transport policy, that has most recently been reiterated in Local Transport Plan 4: Delivering Growth without Gridlock (2016 – 2031). Bifurcation is vital to the UK economy because it will ensure efficient operation and resilience between the Channel ports and the routes via the Dartford Crossing and LTC northbound towards the Midlands ('Economic Heartland') and the North ('Northern Powerhouse'). The opening of the LTC completes the M2/A2 corridor as a distinct and separate route between Kent and these areas further north. The principle is that traffic using the Port of Dover would be encouraged to use the M2/A2 corridor and traffic using the Channel Tunnel would use the M20/A20. In the event of an incident on one route, the other route would be available.

However, currently the M2/A2 corridor is substandard compared with M20/A20 and the opening of the LTC will put increased traffic pressure on this route and make the necessary upgrades even more pressing. For this reason, we have emphasised to Highways England and the Department for Transport (DfT) the need to include various upgrades in Road Investment Strategy 2 (2020 – 2025*)* (RIS2) if they are out of scope of the LTC project. The emerging Sub-National Transport Body (STB), Transport for the South East (TfSE), in its submission to the DfT on priorities for RIS2, was also clear that the following infrastructure upgrades are necessary alongside the new LTC. The required upgrades are:

M2 Junction 3 – M20 Junction 6 via A229 (Blue Bell Hill)

As the most direct link between the M20 and M2 this route is expected to see significant increases in traffic when LTC opens as traffic transfers between routes, particularly if variable charging is used to optimise traffic flows across LTC and Dartford Crossing. The A229 is not designated as Strategic Road Network (SRN) and yet functionally it is very much a part of it, consequently being included in the Major Road Network (MRN) proposed by the DfT.

Owing to constrained junctions at either end of the A229 (Blue Bell Hill) there is regular congestion, particularly at peak times. To maximise the potential of the LTC, these junctions need to be reviewed to assess what upgrades can be made to improve journey times. This could include free-flow slips to prevent delays at the gyratories. The impact on these junctions is foreseeable with the traffic modelling available as part of the LTC scheme and so must be addressed on the same timescales as the LTC.

M2 Junction 5 (Stockbury) (M2 to M20 connection via the A249)

The junction suffers from congestion and so constrains development and economic growth. It also has a poor safety record, being in the top 50 national casualty locations on the SRN. We would expect this situation to further deteriorate with increased flows owing to the opening of the LTC – as the A249 is another key inter-motorway connection.

Although a scheme at this junction is already committed in RIS1 it is not fully funded and may therefore slip to RIS2, with risk that sufficient budget is not available then either. The design initially put forward by Highways England did not achieve the scheme objectives and was therefore rejected after public consultation in favour of a superior scheme with free-flow on the A249. We would not want to see the original proposal implemented owing to budgetary constraints. The scheme implemented at this location must be future-proofed for the impacts of the LTC.

M20 Junction 7 (M2 to M20 connection via the A249)

At the other end of the A249, this junction is currently a bottleneck on the network. It has recently received funding from other sources to be signalised, which primarily deals with development traffic flows over the next decade. Therefore, this junction should be included in RIS2 to provide better connectivity between the motorway corridors, such as free-flow slips.

M2 Junction 7 (Brenley Corner)

In the peak hours, congestion is a regular occurrence at this junction and the queues tail back on the A2 in both directions. Flows are tidal at this junction, although heavy London-bound flows are apparent in both peaks. The layout of the junction prioritises free-flow from the M2 to the A299 (heading towards Ramsgate) rather than to the A2 (heading towards Canterbury and then the Port of Dover). Therefore, Port-bound traffic must use the Junction 7 gyratory with the current unsatisfactory layout. Similar to M2 Junction 5, this location is also in the top 50 national casualty locations on the Strategic Road Network.

The gyratory is signal-controlled and there is minimal capacity to be gained from reviewing these signals and their timings. Consequently, despite interim schemes, Brenley Corner will remain a bottleneck on the M2/A2 corridor unless a substantial

scheme is implemented to rationalise the layout, including providing free-flow between the M2 and A2.

A2 dualling Lydden to Dover

There remain several single carriageway sections of the A2 from Lydden into Dover that reduce the capacity of what will be an increasingly important strategic route to the Port. As well as their importance for the LTC traffic, the dualling is also needed for resilience in times of delays at the Port as well as to unlock development in the Dover District.

M25 Junction 2

It is also essential that the connection between the M25 northbound and A2 eastbound at M25 Junction 2 is improved to provide free flow connections. Without these improvements, there is a risk that traffic between junction 3, 4 and 5 of the M25 will seek alternative routes to divert to the LTC when there is an incident at the Dartford Crossing to avoid delays at junction 2 of the M25. This could also be the case for HGVs carrying hazardous loads that would be encouraged to use the LTC over the Dartford Crossing as the new tunnel will not require these types of freight vehicles to be escorted. There is serious concern that traffic will use the A227 through Meopham as an alternative route to get to and from the LTC. This road, together with connecting roads through Sole Street and other villages, is completely unsuitable for HGVs and strategic traffic. Therefore, in addition to improvements to connections at the M25 junction 2, we would require traffic to be actively discouraged from using the A227.

Heritage

The Lower Thames Crossing will have a great impact on the landscapes and communities of this part of North Kent for a considerable period of time. As part of the mitigation package it would be appropriate to consider setting up and funding a body similar to the Rail Link Countryside Initiative which was created during construction of HS1. This initiative helped build goodwill with local communities by funding and facilitating community and environmental enhancement projects within a certain distance of the scheme. If such an initiative is created, criteria for environmental enhancement projects should include historic landscapes and heritage assets as well as the natural environment.

Compensation and Discretionary Purchase

It is essential that property owners, who have already been blighted by the proposed scheme, are fully compensated for the loss of property value and inability to now sell if they need or want to move. The development boundary borders properties in Thong Lane and other parts of Shorne West. The construction site will be directly

opposite these homes, and some of these properties will be within 100 metres of the link road. We would strongly urge Highways England to extend the offer of discretionary purchase to these residents who may well wish to relocate given their close proximity to the new crossing.

Likewise, where community assets/facilities are affected then suitable compensation should be arranged to offset the impact. KCC urges Highways England to work with local asset managers and owners, including Shorne Woods Country Park, to identify a package of suitable mitigation measures.

14. The consultation

Q14a. Information – was the information clear and easy to understand?

Very good
Good
Average
Poor
Very poor
Not applicable

Q14b. Events – were the events of good quality?

Very good
Good
Average
Poor
Very poor
Not applicable

Q14c. Events – were the events suitably located?

Very good
Good
Average
Poor
Very poor
Not applicable

Q14d. Promotion – was the consultation promoted well and to the right people?

Very good
Good
Average
Poor
Very poor
Not applicable

Q14e. Please let us know the reasons for your response to Q14a-Q14d and any other views you have on the delivery of this consultation.

Kent County Council (KCC) welcomed the opportunity to comment on Highways England's Draft Statement of Community Consultation (SoCC) in relation to a Development Consent Order (DCO) application for the Lower Thames Crossing. The County Council previously raised concerns regarding the absence of any reference to an Equality Impact Assessment (EqIA), and asked for it to be made clear how the

EqIA had been used to inform the format of the consultation process, in particular summarising the measures undertaken to ensure the consultation is accessible to all. Following these comments being made as part of our formal response to the draft SoCC, we are disappointed these do not seem to have been considered.

It was hoped given the scope and scale of the project, Highways England would have allowed the full twelve week consultation period to allow respondents enough opportunity to digest all consultation material and provide meaningful feedback to the consultation. For Local Authorities in particular, the ten week consultation period has proven difficult to meet internal governance procedures and consult local Councillors within the time available.

Nevertheless, we have been pleased with Highways England's willingness to undertake further presentations to Members and other formal forums upon request throughout the consultation period. This included a dedicated Member Briefing to 17 KCC Members and one Kent MP on the 21st November, presentation to the Kent and Medway Economic Partnership (KMEP) on 26th November and a presentation to KCC's Environment and Transport Cabinet Committee on the 28th November. Whilst these presentations gave a good insight on the opinions of businesses, it would have been preferred for the Vox Pops to have provided a mixture of views including those from communities.

It is understood the intention is for the consultation report to be made available as part of the DCO application in Autumn 2019. However, should the timescales for submission alter, KCC would ask for the consultation report to be published separately to ensure local authorities and the public can be informed of the outcome of the consultation.

As a statutory consultee, the County Council looks forward to continuing working with Highways England as the DCO application progresses and will continue to review further documentation submitted as part of the process.